

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

**FORM 8-K**

**CURRENT REPORT  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported) April 27, 2020**



**AIR PRODUCTS AND CHEMICALS, INC.**

(Exact Name of Registrant as Specified in Charter)

**Delaware**  
(State or Other Jurisdiction  
of Incorporation)

**001-04534**  
(Commission  
File Number)

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

**7201 Hamilton Boulevard**  
**Allentown, Pennsylvania 18195-1501**  
(Address of Principal Executive Offices and Zip Code)

**(610) 481-4911**  
(Registrant's telephone number, including area code)

**Not Applicable**  
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
<b>Common Stock, par value \$1.00 per share</b>	<b>APD</b>	<b>New York Stock Exchange</b>
<b>2.000% Euro Notes due 2020</b>	<b>APD20</b>	<b>New York Stock Exchange</b>
<b>0.375% Euro Notes due 2021</b>	<b>APD21B</b>	<b>New York Stock Exchange</b>
<b>1.000% Euro Notes due 2025</b>	<b>APD25</b>	<b>New York Stock Exchange</b>

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 under the Securities Act of 1933 (17 CFR 230.405) or Rule 12b-2 under the Securities Exchange Act of 1934 (17 CFR 240.12b-2).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

## Item 8.01. Other Events.

On April 27, 2020, Air Products and Chemicals, Inc. (the “Company”) entered into an Underwriting Agreement with Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as representatives of the underwriters named therein, relating to the issuance and sale by the Company of (i) \$550,000,000 aggregate principal amount of its 1.500% Notes due 2025 (the “2025 Notes”), (ii) \$650,000,000 aggregate principal amount of its 1.850% Notes due 2027 (the “2027 Notes”), (iii) \$900,000,000 aggregate principal amount of its 2.050% Notes due 2030 (the “2030 Notes”), (iv) \$750,000,000 aggregate principal amount of its 2.700% Notes due 2040 (the “2040 Notes”), and (v) \$950,000,000 aggregate principal amount of its 2.800% Notes due 2050 (the “2050 Notes” and, together with the 2025 Notes, the 2027 Notes, the 2030 Notes and the 2040 Notes, the “U.S. Notes”). The offer and sale of the U.S. Notes was registered under the Securities Act of 1933, as amended (the “Securities Act”), pursuant to the Company’s Registration Statement on Form S-3 (File No. 333-221729), which was filed on November 22, 2017 (the “Registration Statement”). The offer and sale of the U.S. Notes is expected to close on or about April 30, 2020, subject to customary closing conditions.

In addition, on April 28, 2020, the Company entered into an Underwriting Agreement with BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International, relating to the issuance and sale by the Company of (i) € 500,000,000 aggregate principal amount of its 0.500% Notes due 2028 (the “2028 Notes”) and (ii) € 500,000,000 aggregate principal amount of its 0.800% Notes due 2032 (the “2032 Notes” and, together with the 2028 Notes, the “Eurobonds” and, together with the U.S. Notes, the “Notes”). The offer and sale of the Eurobonds was registered pursuant to the Registration Statement. The Company has applied to list each series of Eurobonds on the New York Stock Exchange. The offering of the Eurobonds is expected to close on or about May 5, 2020, subject to customary closing conditions.

Each series of Notes will be issued pursuant to an Indenture, dated April 30, 2020 (the “Indenture”), between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”). The terms of the U.S. Notes and the Eurobonds will be set forth in officer’s certificates (which include the forms of the U.S. Notes and of the Eurobonds as exhibits, respectively). The Company may, at its election and upon the terms set forth in the Notes, redeem the Notes, in whole or in part, from time to time at the redemption prices and on the terms and conditions set forth in the Notes. The Company may also, at its election, redeem each series of the Eurobonds in whole, but not in part, upon the occurrence of certain tax events at a redemption price equal to 100% of the principal amount, together with unpaid interest accrued thereon to the date fixed for redemption. The Indenture, the officer’s certificate with respect to the U.S. Notes and the officer’s certificate with respect to the Eurobonds are attached as Exhibits 4.1, 4.2 and 4.3, respectively, to this Current Report on Form 8-K and are incorporated herein by reference.

The Company expects to receive net proceeds, after deduction of the underwriter’s discount and estimated offering expenses, of approximately \$3.76 billion from the sale of the U.S. Notes and € 988.9 million from the sale of the Eurobonds. The Company expects to use the net proceeds from the offerings to repay upcoming debt maturities and for general corporate purposes, including financing a planned equity investment of approximately \$2.5 billion in the joint venture that will acquire the gasification, power and industrial gas assets at Jazan Economic City, Saudi Arabia, and other investments in industrial gas projects. The Company intends to use a portion of the net proceeds from the sale of the Eurobonds to repay € 300 million aggregate principal amount of its 2.000% Notes due 2020, which mature on August 7, 2020, and € 350 million aggregate principal amount of its 0.375% Notes due 2021, which mature on June 1, 2021, and may use a portion of the net proceeds from the sale of the U.S. Notes to repay up to \$400 million aggregate principal amount of its 3.000% Notes due 2021, which mature on November 3, 2021.

The Underwriting Agreements with respect to the sale of the U.S. Notes and the Eurobonds are attached as Exhibits 1.1 and 1.2, respectively, to this Current Report on Form 8-K. The Underwriting Agreements contain representations, warranties and covenants that were made only for purposes of such agreements and as of specific dates, are solely for the benefit of the parties to such agreements and may be subject to limitations agreed upon by the contracting parties. The Underwriting Agreements are not intended to provide any other factual information about the Company.

The opinions of Covington & Burling LLP, counsel to the Company, relating to the U.S. Notes and Eurobonds are filed as Exhibits 5.1 and 5.2, respectively, to this Current Report on Form 8-K.

On April 28, 2020, the Company issued a press release announcing the pricing of the U.S. Notes and the Eurobonds. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
1.1	<a href="#"><u>Underwriting Agreement, dated April 27, 2020, among the Company and Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as representatives of the underwriters named therein.</u></a>
1.2	<a href="#"><u>Underwriting Agreement, dated April 28, 2020, among the Company and BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International.</u></a>
4.1	<a href="#"><u>Indenture, dated April 30, 2020, between Air Products and Chemicals, Inc. and The Bank of New York Mellon Trust Company, N.A.</u></a>
4.2	<a href="#"><u>Form of Officer's Certificate setting forth the terms and form of the U.S. Notes.</u></a>
4.3	<a href="#"><u>Form of Officer's Certificate setting forth the terms and form of the Eurobonds.</u></a>
4.4	<a href="#"><u>Form of 1.500% Notes due 2025 (included in Exhibit 4.2).</u></a>
4.5	<a href="#"><u>Form of 1.850% Notes due 2027 (included in Exhibit 4.2).</u></a>
4.6	<a href="#"><u>Form of 2.050% Notes due 2030 (included in Exhibit 4.2).</u></a>
4.7	<a href="#"><u>Form of 2.700% Notes due 2040 (included in Exhibit 4.2).</u></a>
4.8	<a href="#"><u>Form of 2.800% Notes due 2050 (included in Exhibit 4.2).</u></a>
4.9	<a href="#"><u>Form of 0.500% Notes due 2028 (included in Exhibit 4.3).</u></a>
4.10	<a href="#"><u>Form of 0.800% Notes due 2032 (included in Exhibit 4.3).</u></a>
5.1	<a href="#"><u>Opinion of Covington &amp; Burling LLP with respect to the U.S. Notes.</u></a>
5.2	<a href="#"><u>Opinion of Covington &amp; Burling LLP with respect to the Eurobonds.</u></a>
23.1	<a href="#"><u>Consent of Covington &amp; Burling LLP (included in Exhibit 5.1).</u></a>
23.2	<a href="#"><u>Consent of Covington &amp; Burling LLP (included in Exhibit 5.2).</u></a>
99.1	<a href="#"><u>Press Release of Air Products and Chemicals, Inc., dated April 28, 2020.</u></a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Air Products and Chemicals, Inc.  
(Registrant)

Dated: April 30, 2020

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

Air Products and Chemicals, Inc.

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Underwriting Agreement

April 27, 2020

Barclays Capital Inc.  
745 7th Avenue  
New York, NY 10019

BofA Securities, Inc.  
One Bryant Park  
New York, NY 10036

Citigroup Global Markets, Inc.  
388 Greenwich Street  
New York, NY 10013

J.P. Morgan Securities LLC  
383 Madison Avenue  
New York, NY 10017

As Representatives of the Underwriters named in Schedule II hereto

Ladies and Gentlemen:

Air Products and Chemicals, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein, to issue and sell to the Underwriters named in Schedule II hereto (the “**Underwriters**”), for whom you are acting as representatives (the “**Representatives**”), the principal amount of each series of its 1.500% Senior Notes due 2025, 1.850% Senior Notes due 2027, 2.050% Senior Notes due 2030, 2.700% Senior Notes due 2040 and 2.800% Senior Notes due 2050 identified in Schedule I hereto (together, the “**Securities**”).

The Securities are to be issued pursuant to an indenture, to be dated as of April 30, 2020 (as it may be supplemented or amended from time to time, the “**Indenture**”), between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “**Trustee**”).

1. The Company represents and warrants to, and agrees with, each of the Underwriters that at the date of this Agreement and at each additional time stated in this Agreement:

(a) An “automatic shelf registration statement” as defined in Rule 405 under the Securities Act of 1933, as amended (the “**Act**”), on Form S-3 (the file number of which is set forth in Schedule I) in respect of the Securities has been filed with the Securities and Exchange Commission (the “**Commission**”) not earlier than three years prior to the date hereof which registration statement, and any post-effective amendment thereto, became effective on filing; and no stop order suspending the effectiveness of such registration statement or any part thereof has

been issued and no proceeding for that purpose has been initiated or threatened by the Commission, and no notice of objection of the Commission to the use of such registration statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act has been received by the Company (the base prospectus filed as part of such registration statement, in the form in which it has most recently been filed with the Commission on or prior to the date of this Agreement, is hereinafter called the “ **Basic Prospectus** ”; any preliminary prospectus (including any preliminary prospectus supplement) relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act is hereinafter called a “ **Preliminary Prospectus** ”; the various parts of such registration statement, including all exhibits thereto but excluding Form T-1 and including any prospectus supplement relating to the Securities that is filed with the Commission and deemed by virtue of Rule 430B to be part of such registration statement, each as amended at the time such part of the registration statement became effective, are hereinafter collectively called the “ **Registration Statement** ”; the Basic Prospectus, as amended and supplemented immediately prior to the Applicable Time (as defined in Section 1(c) hereof), is hereinafter called the “ **Pricing Prospectus** ”; the form of the final prospectus relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act in accordance with Section 5(a) hereof is hereinafter called the “ **Prospectus** ”; any reference herein to the Basic Prospectus, the Pricing Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Act, as of the date of such prospectus; any reference to any amendment or supplement to the Basic Prospectus, any Preliminary Prospectus, the Registration Statement or the Prospectus shall be deemed to refer to and include any post-effective amendment to the Registration Statement, any prospectus supplement relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act and any documents filed under the Securities Exchange Act of 1934, as amended (the “ **Exchange Act** ”), and incorporated therein, in each case after the date of the Basic Prospectus, such Preliminary Prospectus, or the Prospectus, as the case may be; any reference to any amendment to the Registration Statement shall be deemed to refer to and include any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act after the effective date of the Registration Statement that is incorporated by reference in the Registration Statement; and any “issuer free writing prospectus” as defined in Rule 433 under the Act relating to the Securities is hereinafter called an “ **Issuer Free Writing Prospectus** ”);

(b) No order preventing or suspending the use of any Preliminary Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Act and the Trust Indenture Act of 1939, as amended (the “ **Trust Indenture Act** ”), and the rules and regulations of the Commission thereunder, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof;

(c) For the purposes of this Agreement, the “Applicable Time” is as set forth in Schedule I; the Pricing Prospectus as supplemented by the final term sheet prepared and filed pursuant to Section 5(a) hereof, taken together (collectively, the “**Pricing Disclosure Package**”) as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Free Writing Prospectus listed on Schedule I hereto does not conflict with the information contained in the Registration Statement, the Pricing Prospectus or the Prospectus and each such Issuer Free Writing Prospectus, as supplemented by and taken together with the Pricing Disclosure Package as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided , however* , that this representation and warranty shall not apply to statements or omissions made in an Issuer Free Writing Prospectus in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein;

(d) The Registration Statement, as amended, complies in all material respects with the provisions of the Act and the rules and regulations of the Commission thereunder and does not contain any untrue statement of a material fact and does not omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus will comply in all material respects with the provisions of the Act and the rules and regulations of the Commission thereunder and will not contain any untrue statement of a material fact and will not omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they are made, not misleading; *provided , however* , that none of the representations and warranties contained in this Section 1(d) shall apply to (i) that part of the Registration Statement which shall constitute the Statement of Eligibility and Qualification (Form T-1) under the Trust Indenture Act, of the Trustee or (ii) statements in, or omissions from, the Registration Statement or the Prospectus or any amendment thereof or supplement thereto made in reliance upon and in conformity with information furnished in writing to the Company by or behalf of any Underwriter for use in connection with the preparation of the Registration Statement or the Prospectus or any such amendment or supplement;

(e) The accountants whose reports with respect to financial statements are included in the Registration Statement, the Pricing Prospectus and the Prospectus are independent with respect to the Company and its subsidiaries as required by the Act and the rules and regulations of the Commission thereunder;

(f) Neither the Company nor any subsidiary of the Company that is a “significant subsidiary” (as such term is defined in Rule 1-02 of Regulation S-X promulgated under the 1933 Act (each, a “Significant Subsidiary”)) has sustained since the date of the latest audited financial statements included or incorporated by reference in the Pricing Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, that, individually or in the aggregate, is material to the Company and its subsidiaries taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Pricing

Prospectus, there has not been any material adverse change in the capital stock or long-term debt of the Company or any of its Significant Subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus;

(g) Except as set forth in the Pricing Prospectus, neither the Company nor any of its subsidiaries has any litigation or governmental proceedings pending of a character which will result in a judgment, decree or order having a material adverse effect on the condition, financial or other, or the results of operations of the Company and its consolidated subsidiaries, taken as a whole;

(h) The Company and each Significant Subsidiary has been duly incorporated and is a validly existing corporation in good standing under the laws of the jurisdiction in which it was incorporated, has the corporate power to own or hold under lease the property it purports to own or hold under lease and to carry on the business in which it is engaged, and is duly licensed and duly qualified and is in good standing as a foreign corporation in each jurisdiction wherein the character of the property owned or held under lease by it, or the nature of the business transacted by it, makes such licensing or qualifications necessary except where the failure to so qualify or to be in good standing would not reasonably be expected to result in a material adverse effect and all the outstanding shares of the capital stock of the subsidiaries of the Company are owned directly, or indirectly through wholly owned subsidiaries, by the Company, free and clear of any material lien, pledge or other encumbrance, except for (i) directors' and officers' qualifying shares and (ii) shares of such stock representing minority interests reflected in the financial statements of the Company and its consolidated subsidiaries included in the Pricing Prospectus;

(i) (i) The issuance and delivery of the Securities by the Company pursuant to this Agreement has been duly and validly authorized by all necessary corporate action and no authorization, consent or approval of the stockholders and no further authorization or approval of the Board of Directors of the Company will be required for the issuance, sale and delivery of the Securities as contemplated herein; (ii) neither such issuance, sale or delivery of the Securities nor the consummation of any other of the transactions herein contemplated will result in a breach by the Company of any terms of, or constitute a default under, any other agreement or undertaking of the Company; and (iii) no authorization, consent or approval of, or filing or registration with, or exemption by, any government or public body or authority of the United States or of any State or any department or subdivision thereof, other than such as may be required under the securities or blue sky laws of any jurisdiction and other than registration of the Securities under the Act and qualification of the Indenture under the Trust Indenture Act, is required for the validity of the Securities or for the valid offering, issuance, sale and delivery of the Securities by the Company pursuant to this Agreement or for the execution and delivery by the Company of this Agreement and the Indenture; except, in the case of (ii), for such breach, defaults or violations that would not, singly or in the aggregate, result in a material adverse effect on the ability of the Company to perform its obligations under this Agreement;



(j) The Indenture has been duly and validly authorized by the Company, and when executed and delivered by the Company and duly authorized, executed and delivered by the Trustee, will constitute an instrument valid and binding on the Company and enforceable in accordance with its terms (except as (i) the enforceability thereof may be limited by bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (ii) rights of acceleration and the availability of equitable remedies may be limited by equitable principles of general applicability);

(k) The Securities are in a form contemplated by the Indenture and have been duly authorized, and, when executed and delivered on behalf of the Company and authenticated by the Trustee, upon the delivery thereof and payment therefor as provided in this Agreement, the Securities will constitute valid and binding obligations of the Company, enforceable in accordance with their respective terms (except as (i) the enforceability thereof may be limited by bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (ii) rights of acceleration and the availability of equitable remedies may be limited by equitable principles of general applicability), and entitled to the benefits of the Indenture;

(l) This Agreement has been duly authorized, executed and delivered by the Company, and the performance of this Agreement and the consummation of the transactions herein contemplated will not result in a breach of any of the terms or provisions of, or constitute a default under, the Restated Certificate of Incorporation, as amended, or the Amended and Restated Bylaws of the Company or any law, administrative regulation or court decree applicable to the Company or by which the Company or any of its properties is bound or affected any of which breaches or defaults would, in any case, have a material adverse effect upon the financial condition or operations of the Company or the legality, validity or enforceability against the Company of this Agreement, the Indenture or the Securities or would materially adversely affect the ability of the Company to perform its obligations under this Agreement, the Indenture or the Securities (except to the extent that the enforceability of the indemnity provisions of this Agreement may be limited by securities laws or public policy);

(m) The financial statements included or incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus, present fairly the financial condition and results of operations of the entities purported to be shown thereby, at the dates and for the periods indicated and have been prepared, except as stated therein, in conformity with generally accepted accounting principles in effect in the United States ("GAAP") applied on a consistent basis throughout the periods involved. All disclosures contained in the Pricing Disclosure Package and the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply with Regulation G under the Exchange Act and Item 10(e) of Regulation S-K under the Act, to the extent applicable;

(n) The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus fairly present the information called for in all material respects and are prepared in accordance with the Commission's rules and guidelines applicable thereto;

(o) During the twelve calendar months and any portion of a calendar month immediately preceding the date of the filing of the Registration Statement with the Commission, the Company has timely filed all documents and amendments to previously filed documents required to be filed by it pursuant to Section 12, 13, 14 or 15(d) of the Exchange Act. The documents incorporated by reference into the Pricing Prospectus and the Prospectus have been prepared by the Company in conformity with the requirements of the Exchange Act and the rules and regulations thereunder and such documents have been timely filed as required thereby;

(p) (i)(A) At the time of filing the Registration Statement, (B) at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the Act (whether such amendment was by post-effective amendment, incorporated report filed pursuant to Section 13 or 15(d) of the Exchange Act or form of prospectus), and (C) at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the Act) made any offer relating to the Securities in reliance on the exemption of Rule 163 under the Act, the Company was a “well-known seasoned issuer” as defined in Rule 405 under the Act; and (ii) at the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) under the Act) of the Securities, the Company was not an “ineligible issuer” as defined in Rule 405 under the Act;

(q) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that complies with the requirements of the Exchange Act and has been designed by the Company’s principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company’s internal control over financial reporting is effective and the Company is not aware of any material weaknesses in its internal control over financial reporting;

(r) Since the date of the Company’s latest audited financial statements included or incorporated by reference in the Pricing Prospectus, there has been no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting;

(s) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company’s principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective;

(t) Neither the Company nor any of its subsidiaries is or, after giving effect to the offering and sale of the Securities and the application of the proceeds thereof, will be an “investment company,” as such term is defined in the Investment Company Act of 1940, as amended (the “**Investment Company Act**”), and the rules and regulations of the Commission thereunder;

(u) Neither the Company nor any of its subsidiaries, nor, to the best of the Company's knowledge, any director, officer, agent, employee or controlled affiliate of the Company or any of its subsidiaries, is an individual or entity ("**Person**") currently the subject or target of any sanctions administered or enforced by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, the United Nations Security Council, or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company organized, or any of its facilities located, in a country or territory that is the subject of Sanctions in violation of applicable law; and the Company will not, knowingly, directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions, to fund any activities of or business in any country or territory that is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past 5 years, the Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any Person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any country or territory that is the subject of Sanctions. The representations in this section 1(u) shall not apply to, nor are they sought by or given to, any person if and to the extent that the express of, or compliance with, or receipt or acceptance of, such representations would breach any provision of Council (EC) No. 2271/96, as amended from time to time (the "EU Blocking Regulation"), or any law or regulation implementing the EU Blocking Regulation in any member state of the European Union or the United Kingdom or any similar applicable anti-boycott law or regulation;

(v) Neither the Company nor any of its subsidiaries, nor, to the best of the Company's knowledge, any director, officer, agent, employee or other person acting on behalf of the Company or any of its subsidiaries has: (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; or (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder, the Bribery Act of 2010 of the United Kingdom, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions; and the Company and its subsidiaries have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith;

(w) The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions where the Company and its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the best of the Company's knowledge, threatened;

(x) Except as described in the Registration Statement, Pricing Disclosure Package and the Prospectus, (A) to the best of the Company's knowledge, there has been no security breach or other compromise of or relating to any of the Company's and its subsidiaries' information technology and computer systems, networks, hardware, software, data (including the data of their respective customers, employees, suppliers, vendors and data processed or stored by third parties on behalf of the Company), equipment or technology ("IT Systems and Data"), (B) the Company and its subsidiaries have complied, and are presently in compliance, with all applicable laws, statutes or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority and all internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not, in the case of clause (A) or (B) above, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, and (C) the Company and its subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices.

(y) No post-effective amendment to the Registration Statement reflecting any facts or events arising after the effective date of the Registration Statement which, individually or in the aggregate, represent a fundamental change in the information set forth therein, is required to be filed with the Commission.

(z) The Company has (i) timely filed all U.S. federal tax returns and state, local and foreign tax returns that are required to be filed or has requested extensions thereof, except insofar as the failure to file such returns, singly or in the aggregate, would not reasonably be expected to result in a material adverse effect, and (ii) has paid all material taxes required to be paid by it and any other material assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, other than any such assessment, fine or penalty that is currently being contested in good faith and for which adequate reserves have been provided in accordance with GAAP.

(aa) Except as described in the Registration Statement, Pricing Disclosure Package and the Prospectus, (i) the Company and its subsidiaries (a) are in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions, judgments, decrees, orders and the common law relating to pollution or the protection of the environment, natural resources or human health or safety, including those relating to the generation, storage, treatment, use, handling, transportation or release of hazardous materials (collectively, "Environmental Laws"), (b) have received and are in compliance with all permits, licenses, certificates or other authorizations or approvals required of them under applicable Environmental Laws to conduct their respective businesses, and (c) have not received written notice of any actual or potential liability under or relating to, or actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any release or threat of release of hazardous materials, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice, and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter, as would not, individually or in the aggregate, reasonably be expected to have a material adverse effect.

2. Subject to the terms and conditions herein set forth, the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at the purchase price set forth in Schedule I the respective principal amount of Securities set forth opposite the name of such Underwriter in Schedule II hereto.

3. Upon the authorization by you of the release of the Securities, the several Underwriters propose to offer the Securities for sale upon the terms and conditions set forth in the Prospectus.

4. (a) The Securities to be purchased by each Underwriter hereunder will be represented by one or more definitive global Securities in book-entry form through the facilities of the Depository Trust Company (“DTC”). The Company will deliver the Securities in book-entry form to the Underwriters for the account of each Underwriter, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of (same day) funds to the account specified by the Company to the Underwriters at least 24 hours in advance. The Company will cause the certificates representing the global Securities to be made available for checking at least 24 hours prior to the Time of Delivery (as defined below). The time and date of such delivery and payment shall be as set forth in Schedule I or such other time and date as the Underwriters and the Company may agree upon in writing. Such time and date are herein called the “**Time of Delivery.**”

(b) The documents to be delivered at the Time of Delivery by or on behalf of the parties hereto pursuant to Section 8 hereof, including the cross-receipt for the Securities and any additional documents requested by the Underwriters pursuant to Section 8(i) hereof, will be delivered at the location designated in Schedule I or such other place as shall be agreed upon by the Underwriters and the Company (the “**Closing Location**”), and the Securities will be delivered, all at the Time of Delivery.

5. The Company agrees with each of the Underwriters:

(a) To prepare the Prospectus in a form approved by you and to file such Prospectus pursuant to Rule 424(b) under the Act not later than the Commission’s close of business on the second business day following the date of this Agreement; to make no further amendment or any supplement to the Registration Statement, the Basic Prospectus or the Prospectus prior to the Time of Delivery which shall be disapproved by you promptly after reasonable notice thereof; to advise you, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any amendment or supplement to the Prospectus has been filed and to furnish you with copies thereof; to prepare a final term sheet, containing solely a description of the Securities, in a form approved by you and to file such term sheet pursuant to Rule 433(d) under the Act within the time required by such Rule; to file promptly all other material required to be filed by the Company with the Commission pursuant to Rule 433(d) under the Act; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required in connection with the offering or sale of the Securities; to advise you, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or

other prospectus in respect of the Securities, of any notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus or suspending any such qualification, to promptly use its best efforts to obtain the withdrawal of such order; and in the event of any such issuance of a notice of objection, promptly to take such steps including, without limitation, amending the Registration Statement or filing a new registration statement, at its own expense, as may be necessary to permit offers and sales of the Securities by the Underwriters (references herein to the Registration Statement shall include any such amendment or new registration statement);

(b) If required by Rule 430B(h) under the Act, to prepare a form of prospectus in a form approved by you and to file such form of prospectus pursuant to Rule 424(b) under the Act not later than may be required by Rule 424(b) under the Act; and to make no further amendment or supplement to such form of prospectus which shall be disapproved by you promptly after reasonable notice thereof;

(c) If by the third anniversary (the “ **Renewal Deadline** ”) of the initial effective date of the Registration Statement, any of the Securities remain unsold by the Underwriters, the Company will file, if it has not already done so and is eligible to do so, a new automatic shelf registration statement relating to the Securities, in a form satisfactory to you. If at the Renewal Deadline the Company is no longer eligible to file an automatic shelf registration statement, the Company will, if it has not already done so, file a new shelf registration statement relating to the Securities, in a form satisfactory to you and will use its best efforts to cause such registration statement to be declared effective within 180 days after the Renewal Deadline. The Company will take all other action necessary or appropriate to permit the public offering and sale of the Securities to continue as contemplated in the expired registration statement relating to the Securities. References herein to the Registration Statement shall include such new automatic shelf registration statement or such new shelf registration statement, as the case may be;

(d) Promptly from time to time to take such action as you may reasonably request to qualify the Securities for offering and sale under the securities laws of such jurisdictions as you may request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Securities, *provided* that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction;

(e) To promptly furnish the Underwriters with written and electronic copies of the documents constituting the Pricing Disclosure Package and the Prospectus in New York City in such quantities as you may reasonably request, and, if the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required at any time prior to the expiration of nine months after the time of issue of the Prospectus in connection with the offering or sale of the Securities and if at such time any event shall have occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material

fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is delivered, not misleading, or, if for any other reason it shall be necessary during such same period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Act, the Exchange Act or the Trust Indenture Act, to notify you and upon your request to file such document and to prepare and furnish without charge to each Underwriter and to any dealer in securities as many written and electronic copies as you may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance; and in case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) in connection with sales of any of the Securities at any time nine months or more after the time of issue of the Prospectus, upon your request but at the expense of such Underwriter, to prepare and deliver to such Underwriter as many written and electronic copies as you may request of an amended or supplemented Prospectus complying with Section 10(a)(3) of the Act;

(f) The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its security holders as soon as practicable an earnings statement for the purposes of complying with Section 11(a) of the Act and the rules and regulations of the Commission thereunder (including, at the option of the Company, Rule 158);

(g) During the period beginning from the date hereof and continuing to and including the later of the Time of Delivery and such earlier time as you may notify the Company, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose any securities of the Company that are substantially similar to the Securities (other than the securities contemplated by the Prospectus under the subheading “Summary—Concurrent Eurobond Offering”);

(h) To pay any required Commission filing fees relating to the Securities within the time required by Rule 456 (b)(1) under the Act without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) under the Act;

(i) To use the net proceeds received by it from the sale of the Securities pursuant to this Agreement in the manner specified in the Pricing Prospectus under the caption “Use of Proceeds”;

(j) To take commercially reasonable efforts to assist the Underwriters in arranging for the Securities to be eligible for clearance and settlement through DTC; and

(k) Notwithstanding and to the exclusion of any other term of this Agreement or any other agreements, arrangements, or understanding between the Underwriters and the Company, the Company acknowledges and accepts that a BRRD Liability arising under this Agreement may be subject to the exercise of Bail-in Powers by the Relevant Resolution Authority and acknowledges, accepts, and agrees to be bound by:

(i) the effect of the exercise of Bail-in Powers by the Relevant Resolution Authority in relation to any BRRD Liability of the Underwriters to the Company under this Agreement, that (without limitation) may include and result in any of the following, or some combination thereof:

(A) the reduction of all, or a portion, of the BRRD Liability or outstanding amounts due thereon;

(B) the conversion of all, or a portion, of the BRRD Liability into shares, other securities or other obligations of the Underwriters or another person (and the issue to or conferral on the Company of such shares, securities or obligations);

(C) the cancellation of the BRRD Liability;

(D) the amendment or alteration of any interest, if applicable, thereon, the maturity or the dates on which any payments are due, including by suspending payment for a temporary period;

(ii) the variation of the terms of this Agreement, as deemed necessary by the Relevant Resolution Authority, to give effect to the exercise of Bail-in Powers by the Relevant Resolution Authority.

As used in this Section 5(1), “Bail-in Legislation” means in relation to the United Kingdom and a member state of the European Economic Area which has implemented, or which at any time implements, the BRRD, the relevant implementing law, regulation, rule or requirement as described in the EU Bail-in Legislation Schedule from time to time; “Bail-in Powers” means any Write-down and Conversion Powers as defined in the EU Bail-in Legislation Schedule in relation to the relevant Bail-in Legislation; “BRRD” means Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms; “BRRD Liability” means a liability in respect of which the relevant Write Down and Conversion Powers in the applicable Bail-in Legislation may be exercised; “EU Bail-in Legislation Schedule” means the document described as such, then in effect, and published by the Loan Market Association (or any successor person) from time to time at <http://www.lma.eu.com/pages.aspx?p=499>; and “Relevant Resolution Authority” means the resolution authority with the ability to exercise any Bail-in Powers in relation to the Underwriters.

6. (a) (i) The Company represents and agrees that, other than the final term sheet prepared and filed pursuant to Section 5(a) hereof, without the prior consent of the Underwriters, it has not made and will not make any offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 under the Act, except as set forth in Schedule I;

(ii) each Underwriter represents and agrees that, without the prior consent of the Company and the Underwriters, other than one or more term sheets relating to the Securities containing customary information and conveyed to purchasers of Securities, it has not made and will not make any offer relating to the Securities that would constitute a free writing prospectus required to be filed with the Commission; and



(iii) any such free writing prospectus the use of which has been consented to by the Company and the Underwriters (including the final term sheet prepared and filed pursuant to Section 5(a) hereof) is listed on Schedule I hereto;

(b) Each Underwriter represents and agrees that: (A) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the “**FSMA**”)) received by it in connection with the issue or sale of the Securities in circumstances in which Section 21(1) of the FSMA does not apply to the Company; and (B) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Securities in, from or otherwise involving the United Kingdom;

(c) Each Underwriter has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Securities to any retail investor in the European Economic Area or in the United Kingdom. As used in this Section 6(c): the expression “retail investor” means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or (ii) a customer within the meaning of Directive (EU) 2016/97 (the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (the “Prospectus Regulation”); and the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the Securities to be offered so as to enable an investor to decide to purchase or subscribe for the Securities;

(d) The Company has complied and will comply with the requirements of Rule 433 under the Act applicable to any Issuer Free Writing Prospectus, including timely filing with the Commission or retention where required and legending; and

(e) The Company agrees that if at any time following issuance of an Issuer Free Writing Prospectus any event occurred or occurs as a result of which such Issuer Free Writing Prospectus would conflict with the information in the Registration Statement, the Pricing Prospectus or the Prospectus or would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, the Company will give prompt notice thereof to the Underwriters and, if requested by the Underwriters, will prepare and furnish without charge to each Underwriter an Issuer Free Writing Prospectus or other document which will correct such conflict, statement or omission; *provided, however*, that this representation and warranty shall not apply to any statements or omissions in an Issuer Free Writing Prospectus made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein.

7. The Company covenants and agrees with the several Underwriters that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company's counsel and accountants in connection with the registration of the Securities under the Act and all other expenses in connection with the preparation, printing, reproduction and filing of the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, any Issuer Free Writing Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers; (ii) the cost of printing or producing this Agreement, the Indenture, the Blue Sky survey, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Securities; (iii) all expenses in connection with the qualification of the Securities for offering and sale under state securities laws as provided in Section 5(d) hereof, including the fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with the Blue Sky survey; (iv) any fees charged by securities rating services for rating the Securities; (v) the cost of preparing the Securities; (vi) the fees and expenses of the Trustee and any agent of the Trustee and the fees and disbursements of counsel for the Trustee in connection with the Indenture and the Securities; (vii) the costs of qualifying the Securities into DTC; (viii) any stamp or transfer taxes in connection with the original issuance and sale of the Securities; and (ix) all other costs and expenses incident to the performance of its obligations hereunder which are not otherwise specifically provided for in this Section (including, without limitation, costs and expenses associated with the preparation or dissemination of any electronic roadshow). It is understood, however, that, except as provided in this Section, and Sections 9 and 12 hereof, the Underwriters will pay all of their own costs and expenses on a *pro rata* basis (based on the principal amount of Securities that such Underwriter agreed to purchase hereunder), including the fees of their counsel, transfer taxes on resale of any of the Securities by them, and any advertising expenses connected with any offers they may make; *provided* that if the sale of the Securities provided for herein is not consummated because any condition to the obligations of the Underwriters set forth in Section 8 hereof is not satisfied, because this Agreement is terminated or because of any failure, refusal or inability on the part of the Company to perform all obligations and satisfy all conditions on its part to be performed or satisfied hereunder (other than solely by reason of a default by the Underwriters of their obligations hereunder), the Company agrees to promptly reimburse the Underwriters upon demand for all out-of-pocket expenses (including reasonable fees, disbursements and charges of Davis Polk & Wardwell LLP, counsel for the Underwriters) that shall have been incurred by the Underwriters in connection with the proposed purchase and sale of the Securities.

8. The obligations of the Underwriters hereunder shall be subject, in their discretion, to the condition that all representations and warranties and other statements of the Company herein are, at and as of the Time of Delivery, true and correct, the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus and any Pricing Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act within the applicable time period prescribed for such filing by the rules and regulations under the Act and in accordance with Section 5(a) hereof; the final term sheet contemplated by Section 5(a) hereof, and any other material required to be filed by the Company pursuant to Rule 433(d) under the Act, shall have been filed with the Commission within the applicable time periods prescribed for such filings by Rule 433; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission and no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act shall have been received; no stop order suspending or preventing the use of the Prospectus or any Issuer Free Writing Prospectus shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to your reasonable satisfaction;

(b) Covington & Burling LLP, counsel for the Company, shall have furnished to you such written opinion, dated the Time of Delivery, in form and substance satisfactory to you, to the effect set forth in Annex I hereto;

(c) Davis Polk & Wardwell LLP, counsel for the Underwriters, shall have furnished to you such written opinion and negative assurance letter, dated the Time of Delivery, in form and substance satisfactory to you, with respect to such matters as you may reasonably request, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters;

(d) On the date of this Agreement and at the Time of Delivery, Deloitte & Touche LLP, the independent accountants of the Company, shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you;

(e) On the date of this Agreement and at the Time of Delivery, KPMG LLP, the previous independent accountants of the Company, shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you;

(f) On the date of this Agreement and at the Time of Delivery, the Company shall have furnished, or caused to be furnished to you, a certificate of the Chief Financial Officer of the Company, dated the respective dates of delivery thereof, in form and substance satisfactory to you with respect to certain financial information and data which is not the subject of the letters or letters described in the foregoing Section 8(d) and Section 8(e);

(g) (i) Neither the Company nor any of its subsidiaries shall have sustained since the date of the Company's latest audited financial statements included or incorporated by reference in the Pricing Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Pricing Prospectus, and (ii) since the respective dates as of which information is given in the Pricing Prospectus there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries or any change, or any development involving a prospective change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, otherwise than as set forth or contemplated in the Pricing Prospectus, the effect of which, in any such case described in clause (i) or (ii), is in your judgment so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Securities on the terms and in the manner contemplated in the Pricing Disclosure Package and the Prospectus;

(h) On or after the Applicable Time no downgrading shall have occurred in the rating accorded the Company's debt securities, nor shall any notice be given of surveillance or review, with possible negative implications, its rating of any of the Company's debt securities by Standard & Poor's, a Division of The McGraw-Hill Companies, Inc., or Moody's Investors Service;

(i) On or after the Applicable Time there shall not have occurred any of the following: (i) a suspension or material limitation in trading in securities generally on the New York Stock Exchange; (ii) a suspension or material limitation in trading in the Company's securities on the New York Stock Exchange; (iii) a general moratorium on commercial banking activities declared by either federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) the outbreak or escalation of hostilities involving the United States or the declaration by the United States of a national emergency or war or (v) the occurrence of any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in your judgment makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Securities on the terms and in the manner contemplated in the Pricing Disclosure Package and the Prospectus; and

(j) The Company shall have furnished or caused to be furnished to you at the Time of Delivery certificates of officers of the Company satisfactory to you, stating (i) the representations, warranties and agreements of the Company in Section 1 hereof are true and correct as of the date of such certificate with the same effect as if made on such date; and (ii) each person executing such certificate has examined the Registration Statement and the Prospectus and, in such person's opinion (A) the Registration Statement at the date thereof, or as of the most recent amendment thereto, if any, did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading, (B) the Prospectus as supplemented at the date of such certificate does not contain any untrue statement of a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, and (C) since the effective date of the Registration Statement (or the most recent amendment thereto, if any) there has not occurred any event required to be set forth in an amendment to the Registration Statement which has not been set forth and as to such other matters as you may reasonably request.

9. (a) The Company will indemnify and hold harmless each Underwriter, its affiliates, their agents, directors, officers and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, any Issuer Free Writing Prospectus or any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Act, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Underwriter for any legal or other expenses reasonably incurred by such Underwriter in connection with investigating or defending against or appearing as a third party witness in connection with any such loss, claim, damage, liability, or action as such expenses are incurred; *provided , however ,* that the Company shall not

be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in conformity with written information furnished to the Company by any Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof.

(b) Each Underwriter, severally and not jointly, will indemnify and hold harmless the Company, its directors, its officers and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus or any such amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in conformity with written information furnished to the Company by such Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending against or appearing as a third party witness in connection with any such loss, claim, damage, liability or action in respect thereof as such expenses are incurred.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability (i) under subsection (a) or (b) unless and to the extent such failure results in the forfeiture by the indemnifying party of substantial rights and defenses or (ii) which it may have to any indemnified party otherwise than under such subsection. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal expenses of other counsel or any other expenses, in each case subsequently incurred by such indemnified party, in

connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 9 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this subsection were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Securities underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportions to their respective underwriting obligations and not joint.

(e) The obligations of the Company under this Section 9 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of the Act and each broker-dealer affiliate of any Underwriter; and the obligations of the Underwriters under this Section 9 shall be in addition to any liability which the respective Underwriters may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company (including any person who, with his or her consent, is named in the Registration Statement as about to become a director of the Company) and to each person, if any, who controls the Company within the meaning of the Act.

(f) For purposes of this Section 9, the parties agree that any loss incurred by an Underwriter as a result of any judgment or order being given or made for any amount due hereunder and such judgment or order being expressed and paid in a currency (the “ **Judgment Currency** ”) other than United States dollars and as a result of any variation as between (i) the rate of exchange at which the United States dollars amount is converted into Judgment Currency for the purpose of such judgment or order, and (ii) the rate of exchange at which such Underwriter is able to purchase United States dollars on the business day following actual receipt by such Underwriter of any sum adjudged or ordered to be so due in the Judgment Currency with the amount of the Judgment Currency actually received by such Underwriter shall constitute indemnifiable losses pursuant to Section 9(a). The term “rate of exchange” shall include any premiums and costs of exchange payable in connection with purchase or, or conversion into, the relevant currency.

10. (a) If any Underwriter shall default in its obligation to purchase the Securities which it has agreed to purchase hereunder, you may in your discretion arrange for you or another party or other parties to purchase such Securities on the terms contained herein. If within 36 hours after such default by any Underwriter you do not arrange for the purchase of such Securities, then the Company shall be entitled to a further period of 36 hours within which to procure another party or other parties satisfactory to you to purchase such Securities on such terms. In the event that, within the respective prescribed periods, you notify the Company that you have so arranged for the purchase of such Securities, or the Company notifies you that it has so arranged for the purchase of such Securities, you or the Company shall have the right to postpone the Time of Delivery for a period of not more than seven days, in order to effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees to file promptly any amendments or supplements to the Registration Statement or the Prospectus which in your opinion may thereby be made necessary. The term “Underwriter” as used in this Agreement shall include any person substituted under this Section with like effect as if such person had originally been a party to this Agreement with respect to such Securities.

(b) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate principal amount of such Securities which remains unpurchased does not exceed one-eleventh of the aggregate principal amount of all the Securities, then the Company shall have the right to require each non-defaulting Underwriter to purchase the principal amount of Securities which such Underwriter agreed to purchase hereunder and, in addition, to require each non-defaulting Underwriter to purchase its pro rata share (based on the principal amount of Securities which such Underwriter agreed to purchase hereunder) of the Securities of such defaulting Underwriter or Underwriters for which such arrangements have not been made; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

(c) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate principal amount of Securities which remains unpurchased exceeds one-eleventh of the aggregate principal amount of all the Securities, or if the Company shall not exercise the right described in subsection (b) above to require non-defaulting Underwriters to purchase Securities of a defaulting Underwriter or Underwriters, then this Agreement shall thereupon terminate, without liability on the part of any non-defaulting Underwriter or the Company, except for the expenses to be borne by the Company and the Underwriters as provided in Section 7 hereof and the indemnity and contribution agreements in Section 9 hereof; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

11. The respective indemnities, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Underwriter or any controlling person of any Underwriter, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Securities.

12. If this Agreement shall be terminated pursuant to Section 10 hereof, the Company shall not then be under any liability to any Underwriter except as provided in Sections 7 and 9 hereof; but, if for any other reason, the Securities are not delivered by or on behalf of the Company as provided herein, the Company will reimburse the Underwriters for all out of pocket expenses approved in writing by you, including fees and disbursements of counsel, reasonably incurred by the Underwriters in making preparations for the purchase, sale and delivery of the Securities, but the Company shall then be under no further liability to any Underwriter except as provided in Sections 7 and 9 hereof.

13. In all dealings hereunder, you shall act on behalf of each of the Underwriters, and the parties hereto shall be entitled to act and rely upon any statement, request, notice or agreement on behalf of any Underwriter made or given by you.

14. The statements set forth first and second sentence in the fifth paragraph, third sentence of the seventh paragraph and the tenth paragraph, in each case, (solely to the extent such statements relate to the Underwriters) constitute the only information furnished by the Underwriters to the Company for the purposes of Sections 1(b) and 9 hereof.



All statements, requests, notices and agreements hereunder shall be in writing (including transmissions by electronic mail or facsimile) and, if to the Underwriters shall be sufficient in all respects if delivered or sent to the Representatives at the offices, addresses or facsimile numbers thereof stated in Schedule I, as may be amended from time to time by written notice to the Company; and if to the Company, shall be sufficient in all respects if delivered or sent by mail to Company set forth in the Registration Statement, Attention: Chief Financial Officer.

In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

15. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Sections 9 and 11 hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Securities from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

16. Time shall be of the essence of this Agreement. As used herein, the term "business day" shall mean any day when the Commission's office in Washington, D.C. is open for business.

17. The Company acknowledges and agrees that (i) the purchase and sale of the Securities pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other, (ii) in connection therewith and with the process leading to such transaction each Underwriter is acting solely as a principal and not the agent or fiduciary of the Company, (iii) no Underwriter has assumed an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement and (iv) the Company has consulted its own legal and financial advisors to the extent it deemed appropriate. The Company agrees that it will not claim that the Underwriters, or any of them, has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

18. This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

19. This Agreement shall be governed by and construed in accordance with the laws of the State of New York.

20. The Company and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

21. This Agreement may be executed by any one or more of the parties hereto in any number of counterparts, each of which shall be deemed to be an original, but all such respective counterparts shall together constitute one and the same instrument. Delivery of an executed agreement by one party to the others may be made by facsimile, electronic mail (including any electronic signature complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) or other transmission method, and the parties hereto agree that any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

22. Recognition of the U.S. Special Resolution Regimes.

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 22, “BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); “Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b), (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b) or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b); “Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and “U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

If the foregoing is in accordance with your understanding, please sign and return to us the enclosed duplicates hereof, and upon the acceptance hereof by you, on behalf of each of the Underwriters, this letter and such acceptance hereof shall constitute a binding agreement between each of the Underwriters and the Company.

Very truly yours,

AIR PRODUCTS AND CHEMICALS, INC.

By: /s/ M. Scott Crocco

Name: M. Scott Crocco

Title: Executive Vice President and Chief Financial  
Officer

[Signature Page to Underwriting Agreement]

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Accepted as of the date hereof:

As representatives of the several Underwriters

BARCLAYS CAPITAL INC.

By: /s/ Andrew Pocius  
Name: Andrew Pocius  
Title: Managing Director

BOFA SECURITIES, INC.

By: /s/ Laurie Campbell  
Name: Laurie Campbell  
Title: Managing Director

CITIGROUP GLOBAL MARKETS INC.

By: /s/ Brian D. Bednarski  
Name: Brian D. Bednarski  
Title: Managing Director

J.P. MORGAN SECURITIES LLC

By: /s/ Som Bhattacharyya  
Name: Som Bhattacharyya  
Title: Executive Director

[ *Signature Page to Underwriting Agreement* ]

SCHEDULE I

Underwriting Agreement dated April 27, 2020

Registration No. 333-221729

Underwriters: Barclays Capital Inc.; BofA Securities, Inc.; Citigroup Global Markets Inc.; J.P. Morgan Securities LLC; HSBC Securities (USA) Inc.; Mizuho Securities USA LLC; MUFG Securities Americas Inc.; SMBC Nikko Securities America, Inc.

Purchase Price and Description of Securities:

**1.500% Notes due 2025:**

Title:	1.500% Notes due 2025 (the "2025 Notes")
Principal amount:	\$550,000,000
Purchase price:	99.629% of the principal amount of the 2025 Notes plus accrued interest from April 30, 2020
Offering price:	99.979% of the principal amount of the 2025 Notes plus accrued interest from April 30, 2020
Maturity date:	October 15, 2025
Interest:	Accruing from April 30, 2020 payable on April 15 and October 15 of each year, commencing on October 15, 2020.
Optional Redemption:	Redeemable by the Company at any time prior to September 15, 2025, at a make-whole redemption price described under the heading " <i>Description of Notes—Optional Redemption</i> " in the Prospectus, and on or after September 15, 2025, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.

**1.850% Notes due 2027:**

Title:	1.850% Notes due 2027 (the "2027 Notes")
Principal amount:	\$650,000,000
Purchase price:	99.501% of the principal amount of the 2027 Notes plus accrued interest from April 30, 2020

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Offering price:	99.901% of the principal amount of the 2027 Notes plus accrued interest from April 30, 2020
Maturity date:	May 15, 2027
Interest:	Accruing from April 30, 2020 payable on May 15 and November 15 of each year, commencing on November 15, 2020.
Optional Redemption:	Redeemable by the Company at any time prior to March 15, 2027, at a make-whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after March 15, 2027, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.

**2.050% Notes due 2030:**

Title:	2.050% Notes due 2030 (the “2030 Notes”)
Principal amount:	\$900,000,000
Purchase price:	99.414% of the principal amount of the 2030 Notes plus accrued interest from April 30, 2020
Offering price:	99.864% of the principal amount of the 2030 Notes plus accrued interest from April 30, 2020
Maturity date:	May 15, 2030
Interest:	Accruing from April 30, 2020 payable on May 15 and November 15 of each year, commencing on November 15, 2020.
Optional Redemption:	Redeemable by the Company at any time prior to February 15, 2030, at a make whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after February 15, 2030, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.

**2.700% Notes due 2040:**

Title:	2.700% Notes due 2040 (the “2040 Notes”)
Principal amount:	\$750,000,000
Purchase price:	98.972% of the principal amount of the 2040 Notes plus accrued interest from April 30, 2020
Offering price:	99.722% of the principal amount of the 2040 Notes plus accrued interest from April 30, 2020
Maturity date:	May 15, 2040
Interest:	Accruing from April 30, 2020 payable on May 15 and November 15 of each year, commencing on November 15, 2020.
Optional Redemption:	Redeemable by the Company at any time prior to November 15, 2039, at a make whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after November 15, 2039, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.

**2.800% Notes due 2050:**

Title:	2.800% Notes due 2050 (the “2050 Notes”)
Principal amount:	\$950,000,000
Purchase price:	98.761% of the principal amount of the 2050 Notes plus accrued interest from April 30, 2020
Offering price:	99.636% of the principal amount of the 2050 Notes plus accrued interest from April 30, 2020
Maturity date:	May 15, 2050
Interest:	Accruing from April 30, 2020 payable on May 15 and November 15 of each year, commencing on November 15, 2020.
Optional Redemption:	Redeemable by the Company at any time prior to November 15, 2049, at a make whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after November 15, 2049, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.

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**For each of the 2025 Notes, 2027 Notes, 2030 Notes, 2040 Notes and the 2050 Notes (together, the “Notes”):**

Sinking fund provisions: None.

Change of Control Triggering Event: If the Company experiences specific kinds of change of control accompanied by a decline in a rating by two ratings agencies, it will be required to offer to purchase the Notes from the holders at a purchase price equal to 101% of the principal amount thereof, plus accrued and unpaid interest to, but excluding, the repurchase date, as described under the heading “*Description of Notes—Change of Control and Ratings Decline*” in the Prospectus.

Closing Date, Time and Location: April 30, 2020, 9:00 a.m. New York time, at the offices of Davis Polk & Wardwell LLP, 450 Lexington Avenue, New York, NY 10017 or at such other place, time or date as the Underwriters and the Company mutually agree.



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Other Terms:

1. Issuer Free Writing Prospectuses not included in the Pricing Disclosure Package: Electronic roadshow presentation
2. Contact Information for notices to the Representatives:
  - A. Barclays Capital Inc.  
745 Seventh Avenue  
New York, New York 10019  
Telephone: (646) 834-8133  
Attention: Syndicate Registration
  - B. BofA Securities  
50 Rockefeller Plaza  
NY1-050-12-01  
New York, New York 10020  
Fax: (212) 901-7881  
Attention: High Grade Debt Capital Markets Transaction Management/Legal
  - C. Citigroup Global Markets Inc.  
388 Greenwich Street  
New York, New York 10013  
Fax: (646) 291-1469  
Attention: General Counsel
  - D. J.P. Morgan Securities LLC  
383 Madison Avenue  
New York, New York 10179  
Fax (212) 834-6081  
Attention: Investment Grade Securities Desk
3. Applicable Time: 4:30 p.m. New York time on the date of this Agreement

SCHEDULE II

<u>Underwriter</u>	<u>Principal Amount of 2025 Notes to be Purchased</u>	<u>Principal Amount of 2027 Notes to be Purchased</u>	<u>Principal Amount of 2030 Notes to be Purchased</u>	<u>Principal Amount of 2040 Notes to be Purchased</u>	<u>Principal Amount of 2050 Notes to be Purchased</u>
Barclays Capital Inc.	\$ 71,500,000	\$ 84,500,000	\$ 117,000,000	\$ 97,500,000	\$ 123,500,000
BofA Securities, Inc.	71,500,000	84,500,000	117,000,000	97,500,000	123,500,000
Citigroup Global Markets Inc.	71,500,000	84,500,000	117,000,000	97,500,000	123,500,000
J.P. Morgan Securities LLC	71,500,000	84,500,000	117,000,000	97,500,000	123,500,000
HSBC Securities (USA) Inc.	33,000,000	39,000,000	54,000,000	45,000,000	57,000,000
Mizuho Securities USA LLC	33,000,000	39,000,000	54,000,000	45,000,000	57,000,000
MUFG Securities Americas Inc.	33,000,000	39,000,000	54,000,000	45,000,000	57,000,000
SMBC Nikko Securities America, Inc.	33,000,000	39,000,000	54,000,000	45,000,000	57,000,000
Banca IMI S.p.A.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
BBVA Securities Inc.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
BNP Paribas Securities Corp.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
Deutsche Bank Securities Inc.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
ING Financial Markets LLC	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
Lloyds Securities Inc.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
Santander Investment Securities Inc.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
Scotia Capital (USA) Inc.	16,500,000	19,500,000	27,000,000	22,500,000	28,500,000
<b>Total</b>	<u>\$ 550,000,000</u>	<u>\$ 650,000,000</u>	<u>\$ 900,000,000</u>	<u>\$ 750,000,000</u>	<u>\$ 950,000,000</u>

Air Products and Chemicals, Inc.

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Underwriting Agreement

April 28, 2020

BNP Paribas  
10 Harewood Avenue  
London NW1 6AA  
United Kingdom

Citigroup Global Markets Limited  
Citigroup Centre  
Canada Square, Canary Wharf  
London E14 5LB  
United Kingdom

Deutsche Bank AG, London Branch  
Winchester House, 1 Great Winchester Street  
London EC2N2DB  
United Kingdom

Merrill Lynch International  
2 King Edward Street  
London EC1A 1HQ  
United Kingdom

Underwriters named in Schedule II hereto

Ladies and Gentlemen:

Air Products and Chemicals, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein, to issue and sell to the Underwriters named in Schedule II hereto (the “**Underwriters**”), the principal amount of each series of its 0.500% Senior Notes due 2028 and 0.800% Senior Notes due 2032 identified in Schedule I hereto (together, the “**Securities**”).

The Securities are to be issued pursuant to an indenture, to be dated as of April 30, 2020 (as it may be supplemented or amended from time to time, the “**Indenture**”), between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “**Trustee**”).

1. The Company represents and warrants to, and agrees with, each of the Underwriters that at the date of this Agreement and at each additional time stated in this Agreement:

(a) An “automatic shelf registration statement” as defined in Rule 405 under the Securities Act of 1933, as amended (the “**Act**”), on Form S-3 (the file number of which is set forth in Schedule I) in respect of the Securities has been filed with the Securities and Exchange Commission (the “**Commission**”) not earlier than three years prior to the date hereof which registration statement, and any post-effective amendment thereto, became effective on filing; and no stop order suspending the effectiveness of such registration statement or any part thereof has been issued and no proceeding for that purpose has been initiated or threatened by the Commission, and no notice of objection of the Commission to the use of such registration statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act has been received by the Company (the base prospectus filed as part of such registration statement, in the form in which it has most recently been filed with the Commission on or prior to the date of this Agreement, is hereinafter called the “**Basic Prospectus**”; any preliminary prospectus (including any preliminary prospectus supplement) relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act is hereinafter called a “**Preliminary Prospectus**”; the various parts of such registration statement, including all exhibits thereto but excluding Form T-1 and including any prospectus supplement relating to the Securities that is filed with the Commission and deemed by virtue of Rule 430B to be part of such registration statement, each as amended at the time such part of the registration statement became effective, are hereinafter collectively called the “**Registration Statement**”; the Basic Prospectus, as amended and supplemented immediately prior to the Applicable Time (as defined in Section 1(c) hereof), is hereinafter called the “**Pricing Prospectus**”; the form of the final prospectus relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act in accordance with Section 5(a) hereof is hereinafter called the “**Prospectus**”; any reference herein to the Basic Prospectus, the Pricing Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Act, as of the date of such prospectus; any reference to any amendment or supplement to the Basic Prospectus, any Preliminary Prospectus, the Registration Statement or the Prospectus shall be deemed to refer to and include any post-effective amendment to the Registration Statement, any prospectus supplement relating to the Securities filed with the Commission pursuant to Rule 424(b) under the Act and any documents filed under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), and incorporated therein, in each case after the date of the Basic Prospectus, such Preliminary Prospectus, or the Prospectus, as the case may be; any reference to any amendment to the Registration Statement shall be deemed to refer to and include any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act after the effective date of the Registration Statement that is incorporated by reference in the Registration Statement; and any “issuer free writing prospectus” as defined in Rule 433 under the Act relating to the Securities is hereinafter called an “**Issuer Free Writing Prospectus**”);

(b) No order preventing or suspending the use of any Preliminary Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Act and the Trust Indenture Act of 1939, as amended (the “**Trust Indenture Act**”), and the rules and regulations of the Commission thereunder, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to any

statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof;

(c) For the purposes of this Agreement, the “Applicable Time” is as set forth in Schedule I; the Pricing Prospectus as supplemented by the final term sheet prepared and filed pursuant to Section 5(a) hereof, taken together (collectively, the “**Pricing Disclosure Package**”) as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and each Issuer Free Writing Prospectus listed on Schedule I hereto does not conflict with the information contained in the Registration Statement, the Pricing Prospectus or the Prospectus and each such Issuer Free Writing Prospectus, as supplemented by and taken together with the Pricing Disclosure Package as of the Applicable Time, did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that this representation and warranty shall not apply to statements or omissions made in an Issuer Free Writing Prospectus in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein;

(d) The Registration Statement, as amended, complies in all material respects with the provisions of the Act and the rules and regulations of the Commission thereunder and does not contain any untrue statement of a material fact and does not omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus will comply in all material respects with the provisions of the Act and the rules and regulations of the Commission thereunder and will not contain any untrue statement of a material fact and will not omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they are made, not misleading; *provided, however*, that none of the representations and warranties contained in this Section 1(d) shall apply to (i) that part of the Registration Statement which shall constitute the Statement of Eligibility and Qualification (Form T-1) under the Trust Indenture Act, of the Trustee or (ii) statements in, or omissions from, the Registration Statement or the Prospectus or any amendment thereof or supplement thereto made in reliance upon and in conformity with information furnished in writing to the Company by or behalf of any Underwriter for use in connection with the preparation of the Registration Statement or the Prospectus or any such amendment or supplement;

(e) The accountants whose reports with respect to financial statements are included in the Registration Statement, the Pricing Prospectus and the Prospectus are independent with respect to the Company and its subsidiaries as required by the Act and the rules and regulations of the Commission thereunder;

(f) Neither the Company nor any subsidiary of the Company that is a “significant subsidiary” (as such term is defined in Rule 1-02 of Regulation S-X promulgated under the 1933 Act (each, a “Significant Subsidiary”)) has sustained since the date of the latest audited financial statements included or incorporated by reference in the Pricing Prospectus any loss or

interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, that, individually or in the aggregate, is material to the Company and its subsidiaries taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus; and, since the respective dates as of which information is given in the Registration Statement and the Pricing Prospectus, there has not been any material adverse change in the capital stock or long-term debt of the Company or any of its Significant Subsidiaries or any material adverse change, or any development involving a prospective material adverse change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, taken as a whole, otherwise than as set forth or contemplated in the Pricing Prospectus;

(g) Except as set forth in the Pricing Prospectus, neither the Company nor any of its subsidiaries has any litigation or governmental proceedings pending of a character which will result in a judgment, decree or order having a material adverse effect on the condition, financial or other, or the results of operations of the Company and its consolidated subsidiaries, taken as a whole;

(h) The Company and each Significant Subsidiary has been duly incorporated and is a validly existing corporation in good standing under the laws of the jurisdiction in which it was incorporated, has the corporate power to own or hold under lease the property it purports to own or hold under lease and to carry on the business in which it is engaged, and is duly licensed and duly qualified and is in good standing as a foreign corporation in each jurisdiction wherein the character of the property owned or held under lease by it, or the nature of the business transacted by it, makes such licensing or qualifications necessary except where the failure to so qualify or to be in good standing would not reasonably be expected to result in a material adverse effect and all the outstanding shares of the capital stock of the subsidiaries of the Company are owned directly, or indirectly through wholly owned subsidiaries, by the Company, free and clear of any material lien, pledge or other encumbrance, except for (i) directors' and officers' qualifying shares and (ii) shares of such stock representing minority interests reflected in the financial statements of the Company and its consolidated subsidiaries included in the Pricing Prospectus;

(i) (i) The issuance and delivery of the Securities by the Company pursuant to this Agreement has been duly and validly authorized by all necessary corporate action and no authorization, consent or approval of the stockholders and no further authorization or approval of the Board of Directors of the Company will be required for the issuance, sale and delivery of the Securities as contemplated herein; (ii) neither such issuance, sale or delivery of the Securities nor the consummation of any other of the transactions herein contemplated will result in a breach by the Company of any terms of, or constitute a default under, any other agreement or undertaking of the Company; and (iii) no authorization, consent or approval of, or filing or registration with, or exemption by, any government or public body or authority of the United States or of any State or any department or subdivision thereof, other than such as may be required under the securities or blue sky laws of any jurisdiction and other than registration of the Securities under the Act and qualification of the Indenture under the Trust Indenture Act, is required for the validity of the Securities or for the valid offering, issuance, sale and delivery of the Securities by the Company pursuant to this Agreement or for the execution and delivery by the Company of this Agreement and the Indenture; except, in the case of (ii), for such breach, defaults or violations that would not, singly or in the aggregate, result in a material adverse effect on the ability of the Company to perform its obligations under this Agreement;

(j) The Indenture has been duly and validly authorized by the Company, and when executed and delivered by the Company and duly authorized, executed and delivered by the Trustee, will constitute an instrument valid and binding on the Company and enforceable in accordance with its terms (except as (i) the enforceability thereof may be limited by bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (ii) rights of acceleration and the availability of equitable remedies may be limited by equitable principles of general applicability);

(k) The Securities are in a form contemplated by the Indenture and have been duly authorized, and, when executed and delivered on behalf of the Company and authenticated by the Trustee, upon the delivery thereof and payment therefor as provided in this Agreement, the Securities will constitute valid and binding obligations of the Company, enforceable in accordance with their respective terms (except as (i) the enforceability thereof may be limited by bankruptcy, insolvency, reorganization or other similar laws affecting the enforcement of creditors' rights generally and (ii) rights of acceleration and the availability of equitable remedies may be limited by equitable principles of general applicability), and entitled to the benefits of the Indenture;

(l) This Agreement has been duly authorized, executed and delivered by the Company, and the performance of this Agreement and the consummation of the transactions herein contemplated will not result in a breach of any of the terms or provisions of, or constitute a default under, the Restated Certificate of Incorporation, as amended, or the Amended and Restated Bylaws of the Company or any law, administrative regulation or court decree applicable to the Company or by which the Company or any of its properties is bound or affected any of which breaches or defaults would, in any case, have a material adverse effect upon the financial condition or operations of the Company or the legality, validity or enforceability against the Company of this Agreement, the Indenture or the Securities or would materially adversely affect the ability of the Company to perform its obligations under this Agreement, the Indenture or the Securities (except to the extent that the enforceability of the indemnity provisions of this Agreement may be limited by securities laws or public policy);

(m) The financial statements included or incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus, present fairly the financial condition and results of operations of the entities purported to be shown thereby, at the dates and for the periods indicated and have been prepared, except as stated therein, in conformity with generally accepted accounting principles in effect in the United States ("GAAP") applied on a consistent basis throughout the periods involved. All disclosures contained in the Pricing Disclosure Package and the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply with Regulation G under the Exchange Act and Item 10(e) of Regulation S-K under the Act, to the extent applicable;

(n) The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Pricing Prospectus and the Prospectus fairly present the information called for in all material respects and are prepared in accordance with the Commission's rules and guidelines applicable thereto;

(o) During the twelve calendar months and any portion of a calendar month immediately preceding the date of the filing of the Registration Statement with the Commission, the Company has timely filed all documents and amendments to previously filed documents required to be filed by it pursuant to Section 12, 13, 14 or 15(d) of the Exchange Act. The documents incorporated by reference into the Pricing Prospectus and the Prospectus have been prepared by the Company in conformity with the requirements of the Exchange Act and the rules and regulations thereunder and such documents have been timely filed as required thereby;

(p) (i)(A) At the time of filing the Registration Statement, (B) at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the Act (whether such amendment was by post-effective amendment, incorporated report filed pursuant to Section 13 or 15(d) of the Exchange Act or form of prospectus), and (C) at the time the Company or any person acting on its behalf (within the meaning, for this clause only, of Rule 163(c) under the Act) made any offer relating to the Securities in reliance on the exemption of Rule 163 under the Act, the Company was a “well-known seasoned issuer” as defined in Rule 405 under the Act; and (ii) at the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) under the Act) of the Securities, the Company was not an “ineligible issuer” as defined in Rule 405 under the Act;

(q) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that complies with the requirements of the Exchange Act and has been designed by the Company’s principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP. The Company’s internal control over financial reporting is effective and the Company is not aware of any material weaknesses in its internal control over financial reporting;

(r) Since the date of the Company’s latest audited financial statements included or incorporated by reference in the Pricing Prospectus, there has been no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting;

(s) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company’s principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective;

(t) Neither the Company nor any of its subsidiaries is or, after giving effect to the offering and sale of the Securities and the application of the proceeds thereof, will be an “investment company,” as such term is defined in the Investment Company Act of 1940, as amended (the “**Investment Company Act**”), and the rules and regulations of the Commission thereunder;



(u) Neither the Company nor any of its subsidiaries, nor, to the best of the Company's knowledge, any director, officer, agent, employee or controlled affiliate of the Company or any of its subsidiaries, is an individual or entity ("**Person**") currently the subject or target of any sanctions administered or enforced by the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State, the United Nations Security Council, or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company organized, or any of its facilities located, in a country or territory that is the subject of Sanctions in violation of applicable law; and the Company will not, knowingly, directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions, to fund any activities of or business in any country or territory that is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past 5 years, the Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any Person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any country or territory that is the subject of Sanctions. The representations in this section 1(u) shall not apply to, nor are they sought by or given to, any person if and to the extent that the express of, or compliance with, or receipt or acceptance of, such representations would breach any provision of Council (EC) No. 2271/96, as amended from time to time (the "EU Blocking Regulation"), or any law or regulation implementing the EU Blocking Regulation in any member state of the European Union or the United Kingdom or any similar applicable anti-boycott law or regulation;

(v) Neither the Company nor any of its subsidiaries, nor, to the best of the Company's knowledge, any director, officer, agent, employee or other person acting on behalf of the Company or any of its subsidiaries has: (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; or (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder, the Bribery Act of 2010 of the United Kingdom, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions; and the Company and its subsidiaries have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith;

(w) The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions where the Company and its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Anti-Money**

**Laundrying Laws**”), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the best of the Company’s knowledge, threatened;

(x) Except as described in the Registration Statement, Pricing Disclosure Package and the Prospectus, (A) to the best of the Company’s knowledge, there has been no security breach or other compromise of or relating to any of the Company’s and its subsidiaries’ information technology and computer systems, networks, hardware, software, data (including the data of their respective customers, employees, suppliers, vendors and data processed or stored by third parties on behalf of the Company), equipment or technology (“**IT Systems and Data**”), (B) the Company and its subsidiaries have complied, and are presently in compliance, with all applicable laws, statutes or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority and all internal policies and contractual obligations relating to the privacy and security of IT Systems and Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not, in the case of clause (A) or (B) above, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, and (C) the Company and its subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices.

(y) The Company has taken commercially reasonable efforts to cause the Securities to be listed for trading on the New York Stock Exchange (the “**NYSE**”) as of the date of the issuance of the Securities, or as promptly as practicable thereafter, and the Company has no reason to believe that the Securities will not be authorized for listing on the NYSE, subject to official notice of issuance and evidence of satisfactory distribution;

(z) No post-effective amendment to the Registration Statement reflecting any facts or events arising after the effective date of the Registration Statement which, individually or in the aggregate, represent a fundamental change in the information set forth therein, is required to be filed with the Commission.

(aa) The Company has (i) timely filed all U.S. federal tax returns and state, local and foreign tax returns that are required to be filed or has requested extensions thereof, except insofar as the failure to file such returns, singly or in the aggregate, would not reasonably be expected to result in a material adverse effect, and (ii) has paid all material taxes required to be paid by it and any other material assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, other than any such assessment, fine or penalty that is currently being contested in good faith and for which adequate reserves have been provided in accordance with GAAP.

(bb) Except as described in the Registration Statement, Pricing Disclosure Package and the Prospectus, (i) the Company and its subsidiaries (a) are in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions, judgments, decrees, orders and the common law relating to pollution or the protection of the environment, natural resources or human health or safety, including those relating to the generation, storage, treatment, use, handling, transportation or release of hazardous materials (collectively,

“Environmental Laws”), (b) have received and are in compliance with all permits, licenses, certificates or other authorizations or approvals required of them under applicable Environmental Laws to conduct their respective businesses, and (c) have not received written notice of any actual or potential liability under or relating to, or actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any release or threat of release of hazardous materials, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice, and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter, as would not, individually or in the aggregate, reasonably be expected to have a material adverse effect.

2. Subject to the terms and conditions herein set forth, the Company agrees to issue and sell to each of the Underwriters, and each of the Underwriters agrees, severally and not jointly, to purchase from the Company, at the purchase price set forth in Schedule I the respective principal amount of Securities set forth opposite the name of such Underwriter in Schedule II hereto.

3. Upon the authorization by you of the release of the Securities, the several Underwriters propose to offer the Securities for sale upon the terms and conditions set forth in the Prospectus.

4. (a) The Securities to be purchased by each Underwriter hereunder will be represented by one or more definitive global Securities in book-entry form through a common depository for Euroclear Bank S.A./N.V., as operator of the Euroclear system (“**Euroclear**”), and Clearstream Banking S.A. (“**Clearstream**”). The Company will deliver the Securities in book-entry form to the Underwriters for the account of each Underwriter, against payment by or on behalf of such Underwriter of the purchase price therefor by wire transfer of (same day) funds to the account specified by the Company to the Underwriters at least 24 hours in advance. The Company will cause the certificates representing the global Securities to be made available for checking at least 24 hours prior to the Time of Delivery (as defined below). The time and date of such delivery and payment shall be as set forth in Schedule I or such other time and date as the Underwriters and the Company may agree upon in writing. Such time and date are herein called the “**Time of Delivery**”.

(b) The documents to be delivered at the Time of Delivery by or on behalf of the parties hereto pursuant to Section 8 hereof, including the cross-receipt for the Securities and any additional documents requested by the Underwriters pursuant to Section 8(i) hereof, will be delivered at the location designated in Schedule I or such other place as shall be agreed upon by the Underwriters and the Company (the “**Closing Location**”), and the Securities will be delivered, all at the Time of Delivery.

5. The Company agrees with each of the Underwriters:

(a) To prepare the Prospectus in a form approved by you and to file such Prospectus pursuant to Rule 424(b) under the Act not later than the Commission’s close of business on the second business day following the date of this Agreement; to make no further amendment or any supplement to the Registration Statement, the Basic Prospectus or the Prospectus prior to the Time of Delivery which shall be disapproved by you promptly after reasonable notice thereof; to advise you, promptly after it receives notice thereof, of the time when any amendment to the

Registration Statement has been filed or becomes effective or any amendment or supplement to the Prospectus has been filed and to furnish you with copies thereof; to prepare a final term sheet, containing solely a description of the Securities, in a form approved by you and to file such term sheet pursuant to Rule 433(d) under the Act within the time required by such Rule; to file promptly all other material required to be filed by the Company with the Commission pursuant to Rule 433(d) under the Act; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required in connection with the offering or sale of the Securities; to advise you, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus in respect of the Securities, of any notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus or other prospectus or suspending any such qualification, to promptly use its best efforts to obtain the withdrawal of such order; and in the event of any such issuance of a notice of objection, promptly to take such steps including, without limitation, amending the Registration Statement or filing a new registration statement, at its own expense, as may be necessary to permit offers and sales of the Securities by the Underwriters (references herein to the Registration Statement shall include any such amendment or new registration statement);

(b) If required by Rule 430B(h) under the Act, to prepare a form of prospectus in a form approved by you and to file such form of prospectus pursuant to Rule 424(b) under the Act not later than may be required by Rule 424(b) under the Act; and to make no further amendment or supplement to such form of prospectus which shall be disapproved by you promptly after reasonable notice thereof;

(c) If by the third anniversary (the “ **Renewal Deadline** ”) of the initial effective date of the Registration Statement, any of the Securities remain unsold by the Underwriters, the Company will file, if it has not already done so and is eligible to do so, a new automatic shelf registration statement relating to the Securities, in a form satisfactory to you. If at the Renewal Deadline the Company is no longer eligible to file an automatic shelf registration statement, the Company will, if it has not already done so, file a new shelf registration statement relating to the Securities, in a form satisfactory to you and will use its best efforts to cause such registration statement to be declared effective within 180 days after the Renewal Deadline. The Company will take all other action necessary or appropriate to permit the public offering and sale of the Securities to continue as contemplated in the expired registration statement relating to the Securities. References herein to the Registration Statement shall include such new automatic shelf registration statement or such new shelf registration statement, as the case may be;

(d) Promptly from time to time to take such action as you may reasonably request to qualify the Securities for offering and sale under the securities laws of such jurisdictions as you

may request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the distribution of the Securities, *provided* that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction;

(e) To promptly furnish the Underwriters with written and electronic copies of the documents constituting the Pricing Disclosure Package and the Prospectus in New York City in such quantities as you may reasonably request, and, if the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is required at any time prior to the expiration of nine months after the time of issue of the Prospectus in connection with the offering or sale of the Securities and if at such time any event shall have occurred as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) is delivered, not misleading, or, if for any other reason it shall be necessary during such same period to amend or supplement the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus in order to comply with the Act, the Exchange Act or the Trust Indenture Act, to notify you and upon your request to file such document and to prepare and furnish without charge to each Underwriter and to any dealer in securities as many written and electronic copies as you may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance; and in case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) under the Act) in connection with sales of any of the Securities at any time nine months or more after the time of issue of the Prospectus, upon your request but at the expense of such Underwriter, to prepare and deliver to such Underwriter as many written and electronic copies as you may request of an amended or supplemented Prospectus complying with Section 10(a)(3) of the Act;

(f) The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its security holders as soon as practicable an earnings statement for the purposes of complying with Section 11(a) of the Act and the rules and regulations of the Commission thereunder (including, at the option of the Company, Rule 158);

(g) During the period beginning from the date hereof and continuing to and including the later of the Time of Delivery and such earlier time as you may notify the Company, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise dispose any securities of the Company that are substantially similar to the Securities (other than the securities contemplated by the Prospectus under the subheading "Summary—Concurrent U.S. Debt Offering");

(h) To pay any required Commission filing fees relating to the Securities within the time required by Rule 456(b)(1) under the Act without regard to the proviso therein and otherwise in accordance with Rules 456(b) and 457(r) under the Act;

(i) To use the net proceeds received by it from the sale of the Securities pursuant to this Agreement in the manner specified in the Pricing Prospectus under the caption “Use of Proceeds”;

(j) To take commercially reasonable efforts to assist the Underwriters in arranging for the Securities to be eligible for clearance and settlement through Euroclear and Clearstream;

(k) To take commercially reasonable efforts to cause the Securities to be listed for trading on the NYSE as of the date of the issuance of the Securities, or as promptly as practicable thereafter; and

(l) Notwithstanding and to the exclusion of any other term of this Agreement or any other agreements, arrangements, or understanding between the Underwriters and the Company, the Company acknowledges and accepts that a BRRD Liability arising under this Agreement may be subject to the exercise of Bail-in Powers by the Relevant Resolution Authority and acknowledges, accepts, and agrees to be bound by:

(i) the effect of the exercise of Bail-in Powers by the Relevant Resolution Authority in relation to any BRRD Liability of the Underwriters to the Company under this Agreement, that (without limitation) may include and result in any of the following, or some combination thereof:

(A) the reduction of all, or a portion, of the BRRD Liability or outstanding amounts due thereon;

(B) the conversion of all, or a portion, of the BRRD Liability into shares, other securities or other obligations of the Underwriters or another person (and the issue to or conferral on the Company of such shares, securities or obligations);

(C) the cancellation of the BRRD Liability;

(D) the amendment or alteration of any interest, if applicable, thereon, the maturity or the dates on which any payments are due, including by suspending payment for a temporary period;

(ii) the variation of the terms of this Agreement, as deemed necessary by the Relevant Resolution Authority, to give effect to the exercise of Bail-in Powers by the Relevant Resolution Authority.

As used in this Section 5(l), “Bail-in Legislation” means in relation to the United Kingdom and a member state of the European Economic Area which has implemented, or which at any time implements, the BRRD, the relevant implementing law, regulation, rule or requirement as described in the EU Bail-in Legislation Schedule from time to time; “Bail-in Powers” means any Write-down and Conversion Powers as defined in the EU Bail-in Legislation Schedule in relation to the relevant Bail-in Legislation; “BRRD” means Directive 2014/59/EU establishing a framework for the recovery and resolution of credit institutions and investment firms; “BRRD Liability” means a liability in respect of which the relevant Write Down and Conversion Powers in the applicable Bail-in Legislation may be exercised; “EU Bail-in

Legislation Schedule” means the document described as such, then in effect, and published by the Loan Market Association (or any successor person) from time to time at <http://www.lma.eu.com/pages.aspx?p=499>; and “Relevant Resolution Authority” means the resolution authority with the ability to exercise any Bail-in Powers in relation to the Underwriters.

6. (a) (i) The Company represents and agrees that, other than the final term sheet prepared and filed pursuant to Section 5(a) hereof, without the prior consent of the Underwriters, it has not made and will not make any offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 under the Act, except as set forth in Schedule I;

(ii) each Underwriter represents and agrees that, without the prior consent of the Company and the Underwriters, other than one or more term sheets relating to the Securities containing customary information and conveyed to purchasers of Securities, it has not made and will not make any offer relating to the Securities that would constitute a free writing prospectus required to be filed with the Commission; and

(iii) any such free writing prospectus the use of which has been consented to by the Company and the Underwriters (including the final term sheet prepared and filed pursuant to Section 5(a) hereof) is listed on Schedule I hereto;

(b) Each Underwriter represents and agrees that: (A) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the “**FSMA** ”)) received by it in connection with the issue or sale of the Securities in circumstances in which Section 21(1) of the FSMA does not apply to the Company; and (B) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Securities in, from or otherwise involving the United Kingdom;

(c) Each Underwriter has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Securities to any retail investor in the European Economic Area or in the United Kingdom. As used in this Section 6(c): the expression “retail investor” means a person who is one (or more) of the following: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or (ii) a customer within the meaning of Directive (EU) 2016/97 (the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (the “Prospectus Regulation”); and the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the Securities to be offered so as to enable an investor to decide to purchase or subscribe for the Securities;

(d) The Company has complied and will comply with the requirements of Rule 433 under the Act applicable to any Issuer Free Writing Prospectus, including timely filing with the Commission or retention where required and legending;

(e) The Company agrees that if at any time following issuance of an Issuer Free Writing Prospectus any event occurred or occurs as a result of which such Issuer Free Writing Prospectus would conflict with the information in the Registration Statement, the Pricing Prospectus or the Prospectus or would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, the Company will give prompt notice thereof to the Underwriters and, if requested by the Underwriters, will prepare and furnish without charge to each Underwriter an Issuer Free Writing Prospectus or other document which will correct such conflict, statement or omission; *provided, however*, that this representation and warranty shall not apply to any statements or omissions in an Issuer Free Writing Prospectus made in reliance upon and in conformity with information furnished in writing to the Company by an Underwriter expressly for use therein; and

(f) The Company hereby authorizes Merrill Lynch International in its role as stabilizing manager (the “ **Stabilizing Manager** ”) to make adequate public disclosure regarding stabilization of the information required in relation to such stabilization by Commission Regulation (EC) 2273/2003. The Stabilizing Manager for its own account may, to the extent permitted by applicable laws and directives, over-allot and effect transactions with a view to supporting the market price of the Securities at a level higher than that which might otherwise prevail, but in doing so the Stabilizing Manager shall act as principal and not as agent of the Company and any loss resulting from over-allotment and stabilization shall be borne, and any profit arising therefrom shall be beneficially retained, by the Stabilizing Manager. However, there is no assurance that the Stabilizing Manager (or persons acting on behalf of the Stabilizing Manager) will undertake any stabilization action. Nothing contained in this paragraph (f) shall be construed so as to require the Company to issue in excess of €1,000,000,000 in aggregate principal amount of the Securities. Such stabilization, if commenced, may be discontinued at any time and shall be conducted by the Stabilizing Manager in accordance with all applicable laws and directives.

7. The Company covenants and agrees with the several Underwriters that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company’s counsel and accountants in connection with the registration of the Securities under the Act and all other expenses in connection with the preparation, printing, reproduction and filing of the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, any Issuer Free Writing Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Underwriters and dealers; (ii) the cost of printing or producing this Agreement, the Indenture, the Blue Sky survey, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Securities; (iii) all expenses in connection with the qualification of the Securities for offering and sale under state securities laws as provided in Section 5(d) hereof, including the fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with the Blue Sky survey; (iv) any fees charged by securities rating services for rating the Securities; (v) all fees and expenses in connection with listing the Securities on any securities exchange; (vi) the cost of preparing the Securities; (vii) the fees and expenses of the Trustee and any agent of the Trustee and the fees and disbursements of counsel for the Trustee in connection with the Indenture and the Securities; (viii) the costs of qualifying the Securities into Euroclear and Clearstream; (ix) any stamp or transfer taxes in connection with the original issuance and sale of the Securities; and (x) all other costs and expenses incident to



the performance of its obligations hereunder which are not otherwise specifically provided for in this Section (including, without limitation, costs and expenses associated with the preparation or dissemination of any electronic roadshow). It is understood, however, that, except as provided in this Section, and Sections 9 and 12 hereof, the Underwriters will pay all of their own costs and expenses on a pro rata basis (based on the principal amount of Securities that such Underwriter agreed to purchase hereunder), including the fees of their counsel, transfer taxes on resale of any of the Securities by them, and any advertising expenses connected with any offers they may make; *provided* that if the sale of the Securities provided for herein is not consummated because any condition to the obligations of the Underwriters set forth in Section 8 hereof is not satisfied, because this Agreement is terminated or because of any failure, refusal or inability on the part of the Company to perform all obligations and satisfy all conditions on its part to be performed or satisfied hereunder (other than solely by reason of a default by the Underwriters of their obligations hereunder), the Company agrees to promptly reimburse the Underwriters upon demand for all out-of-pocket expenses (including reasonable fees, disbursements and charges of Davis Polk & Wardwell LLP, counsel for the Underwriters) that shall have been incurred by the Underwriters in connection with the proposed purchase and sale of the Securities.

8. The obligations of the Underwriters hereunder shall be subject, in their discretion, to the condition that all representations and warranties and other statements of the Company herein are, at and as of the Time of Delivery, true and correct, the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus and any Pricing Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act within the applicable time period prescribed for such filing by the rules and regulations under the Act and in accordance with Section 5(a) hereof; the final term sheet contemplated by Section 5(a) hereof, and any other material required to be filed by the Company pursuant to Rule 433(d) under the Act, shall have been filed with the Commission within the applicable time periods prescribed for such filings by Rule 433; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission and no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the Act shall have been received; no stop order suspending or preventing the use of the Prospectus or any Issuer Free Writing Prospectus shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to your reasonable satisfaction;

(b) Covington & Burling LLP, counsel for the Company, shall have furnished to you such written opinion, dated the Time of Delivery, in form and substance satisfactory to you, to the effect set forth in Annex I hereto;

(c) Davis Polk & Wardwell LLP, counsel for the Underwriters, shall have furnished to you such written opinion and negative assurance letter, dated the Time of Delivery, in form and substance satisfactory to you, with respect to such matters as you may reasonably request, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters;

(d) On the date of this Agreement and at the Time of Delivery, Deloitte & Touche LLP, the independent accountants of the Company, shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you;

(e) On the date of this Agreement and at the Time of Delivery, KPMG LLP, the previous independent accountants of the Company, shall have furnished to you a letter or letters, dated the respective dates of delivery thereof, in form and substance satisfactory to you;

(f) On the date of this Agreement and at the Time of Delivery, the Company shall have furnished, or caused to be furnished to you, a certificate of the Chief Financial Officer of the Company, dated the respective dates of delivery thereof, in form and substance satisfactory to you with respect to certain financial information and data which is not the subject of the letters or letters described in the foregoing Section 8(d) and Section 8(e);

(g) (i) Neither the Company nor any of its subsidiaries shall have sustained since the date of the Company's latest audited financial statements included or incorporated by reference in the Pricing Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Pricing Prospectus, and (ii) since the respective dates as of which information is given in the Pricing Prospectus there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries or any change, or any development involving a prospective change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, otherwise than as set forth or contemplated in the Pricing Prospectus, the effect of which, in any such case described in clause (i) or (ii), is in your judgment so material and adverse as to make it impracticable or inadvisable to proceed with the public offering or the delivery of the Securities on the terms and in the manner contemplated in the Pricing Disclosure Package and the Prospectus;

(h) On or after the Applicable Time no downgrading shall have occurred in the rating accorded the Company's debt securities, nor shall any notice be given of surveillance or review, with possible negative implications, its rating of any of the Company's debt securities by Standard & Poor's, a Division of The McGraw-Hill Companies, Inc., or Moody's Investors Service;

(i) On or after the Applicable Time there shall not have occurred any of the following: (i) a suspension or material limitation in trading in securities generally on the New York Stock Exchange; (ii) a suspension or material limitation in trading in the Company's securities on the New York Stock Exchange; (iii) a general moratorium on commercial banking activities declared by either federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) the outbreak or escalation of hostilities involving the United States or the declaration by the United States of a national emergency or war or (v) the occurrence of any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in your judgment makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Securities on the terms and in the manner contemplated in the Pricing Disclosure Package and the Prospectus; and

(j) The Company shall have furnished or caused to be furnished to you at the Time of Delivery certificates of officers of the Company satisfactory to you, stating (i) the representations, warranties and agreements of the Company in Section 1 hereof are true and correct as of the date of such certificate with the same effect as if made on such date; and (ii) each person executing such certificate has examined the Registration Statement and the Prospectus and, in such person's opinion (A) the Registration Statement at the date thereof, or as of the most recent amendment thereto, if any, did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading, (B) the Prospectus as supplemented at the date of such certificate does not contain any untrue statement of a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, and (C) since the effective date of the Registration Statement (or the most recent amendment thereto, if any) there has not occurred any event required to be set forth in an amendment to the Registration Statement which has not been set forth and as to such other matters as you may reasonably request.

9. (a) The Company will indemnify and hold harmless each Underwriter, its affiliates, their agents, directors, officers and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, any Issuer Free Writing Prospectus or any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Act, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse each Underwriter for any legal or other expenses reasonably incurred by such Underwriter in connection with investigating or defending against or appearing as a third party witness in connection with any such loss, claim, damage, liability, or action as such expenses are incurred; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in conformity with written information furnished to the Company by any Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof.

(b) Each Underwriter, severally and not jointly, will indemnify and hold harmless the Company, its directors, its officers and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus

or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, the Basic Prospectus, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus or any such amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in conformity with written information furnished to the Company by such Underwriter expressly for use therein, it being understood and agreed that the only such information furnished by or on behalf of the Underwriters consists of the information as set forth in Section 14 hereof; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending against or appearing as a third party witness in connection with any such loss, claim, damage, liability or action in respect thereof as such expenses are incurred.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability (i) under subsection (a) or (b) unless and to the extent such failure results in the forfeiture by the indemnifying party of substantial rights and defenses or (ii) which it may have to any indemnified party otherwise than under such subsection. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal expenses of other counsel or any other expenses, in each case subsequently incurred by such indemnified party, in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 9 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one

hand and the Underwriters on the other from the offering of the Securities. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this subsection were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Securities underwritten by it and distributed to the public were offered to the public exceeds the amount of any damages which such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportions to their respective underwriting obligations and not joint.

(e) The obligations of the Company under this Section 9 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of the Act and each broker-dealer affiliate of any Underwriter; and the obligations of the Underwriters under this Section 9 shall be in addition to any liability which the respective Underwriters may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company (including any person who, with his or her consent, is named in the Registration Statement as about to become a director of the Company) and to each person, if any, who controls the Company within the meaning of the Act.

(f) For purposes of this Section 9, the parties agree that any loss incurred by an Underwriter as a result of any judgment or order being given or made for any amount due hereunder and such judgment or order being expressed and paid in a currency (the "**Judgment Currency**") other than euros and as a result of any variation as between (i) the rate of exchange

at which the euro amount is converted into Judgment Currency for the purpose of such judgment or order, and (ii) the rate of exchange at which such Underwriter is able to purchase euros on the business day following actual receipt by such Underwriter of any sum adjudged or ordered to be so due in the Judgment Currency with the amount of the Judgment Currency actually received by such Underwriter shall constitute indemnifiable losses pursuant to Section 9(a). The term "rate of exchange" shall include any premiums and costs of exchange payable in connection with purchase or, or conversion into, the relevant currency.

10. (a) If any Underwriter shall default in its obligation to purchase the Securities which it has agreed to purchase hereunder, you may in your discretion arrange for you or another party or other parties to purchase such Securities on the terms contained herein. If within 36 hours after such default by any Underwriter you do not arrange for the purchase of such Securities, then the Company shall be entitled to a further period of 36 hours within which to procure another party or other parties satisfactory to you to purchase such Securities on such terms. In the event that, within the respective prescribed periods, you notify the Company that you have so arranged for the purchase of such Securities, or the Company notifies you that it has so arranged for the purchase of such Securities, you or the Company shall have the right to postpone the Time of Delivery for a period of not more than seven days, in order to effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees to file promptly any amendments or supplements to the Registration Statement or the Prospectus which in your opinion may thereby be made necessary. The term "Underwriter" as used in this Agreement shall include any person substituted under this Section with like effect as if such person had originally been a party to this Agreement with respect to such Securities.

(b) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate principal amount of such Securities which remains unpurchased does not exceed one-eleventh of the aggregate principal amount of all the Securities, then the Company shall have the right to require each non-defaulting Underwriter to purchase the principal amount of Securities which such Underwriter agreed to purchase hereunder and, in addition, to require each non-defaulting Underwriter to purchase its pro rata share (based on the principal amount of Securities which such Underwriter agreed to purchase hereunder) of the Securities of such defaulting Underwriter or Underwriters for which such arrangements have not been made; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

(c) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by you and the Company as provided in subsection (a) above, the aggregate principal amount of Securities which remains unpurchased exceeds one-eleventh of the aggregate principal amount of all the Securities, or if the Company shall not exercise the right described in subsection (b) above to require non-defaulting Underwriters to purchase Securities of a defaulting Underwriter or Underwriters, then this Agreement shall thereupon terminate, without liability on the part of any non-defaulting Underwriter or the Company, except for the expenses to be borne by the Company and the Underwriters as provided in Section 7 hereof and the indemnity and contribution agreements in Section 9 hereof; but nothing herein shall relieve a defaulting Underwriter from liability for its default.

11. The respective indemnities, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of any Underwriter or any controlling person of any Underwriter, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Securities.

12. If this Agreement shall be terminated pursuant to Section 10 hereof, the Company shall not then be under any liability to any Underwriter except as provided in Sections 7 and 9 hereof; but, if for any other reason, the Securities are not delivered by or on behalf of the Company as provided herein, the Company will reimburse the Underwriters for all out of pocket expenses approved in writing by you, including fees and disbursements of counsel, reasonably incurred by the Underwriters in making preparations for the purchase, sale and delivery of the Securities, but the Company shall then be under no further liability to any Underwriter except as provided in Sections 7 and 9 hereof.

13. In all dealings hereunder, you shall act on behalf of each of the Underwriters, and the parties hereto shall be entitled to act and rely upon any statement, request, notice or agreement on behalf of any Underwriter made or given by you.

14. The statements set forth first and second sentence in the fifth paragraph, third sentence of the seventh paragraph and the tenth paragraph, in each case, under the heading "Underwriting" in the Preliminary Prospectus (solely to the extent such statements relate to the Underwriters) constitute the only information furnished by the Underwriters to the Company for the purposes of Sections 1(b) and 9 hereof.

All statements, requests, notices and agreements hereunder shall be in writing (including transmissions by electronic mail or facsimile) and, if to the Underwriters shall be sufficient in all respects if delivered or sent to the Underwriters at the offices, addresses or facsimile numbers thereof stated in Schedule I, as may be amended from time to time by written notice to the Company; and if to the Company, shall be sufficient in all respects if delivered or sent by mail to Company set forth in the Registration Statement, Attention: Chief Financial Officer.

In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

15. This Agreement shall be binding upon, and inure solely to the benefit of, the Underwriters, the Company and, to the extent provided in Sections 9 and 11 hereof, the officers and directors of the Company and each person who controls the Company or any Underwriter, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of any of the Securities from any Underwriter shall be deemed a successor or assign by reason merely of such purchase.

16. Time shall be of the essence of this Agreement. As used herein, the term “business day” shall mean any day when the Commission’s office in Washington, D.C. is open for business.

17. The Company acknowledges and agrees that (i) the purchase and sale of the Securities pursuant to this Agreement is an arm’s-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other, (ii) in connection therewith and with the process leading to such transaction each Underwriter is acting solely as a principal and not the agent or fiduciary of the Company, (iii) no Underwriter has assumed an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement and (iv) the Company has consulted its own legal and financial advisors to the extent it deemed appropriate. The Company agrees that it will not claim that the Underwriters, or any of them, has rendered advisory services of any nature or respect, or owes a fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

18. This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

19. This Agreement shall be governed by and construed in accordance with the laws of the State of New York.

20. The Company and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

21. This Agreement may be executed by any one or more of the parties hereto in any number of counterparts, each of which shall be deemed to be an original, but all such respective counterparts shall together constitute one and the same instrument. Delivery of an executed agreement by one party to the others may be made by facsimile, electronic mail (including any electronic signature complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law) or other transmission method, and the parties hereto agree that any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

22. Any action by the Underwriters hereunder may be taken by BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International on behalf of the Underwriters, and any such action taken by BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International shall be binding upon the Underwriters. The execution of this Agreement by each Underwriter constitutes agreement to, and acceptance of, this Section 22.

23. The execution of this Agreement by each Underwriter constitutes the acceptance of each Underwriter of the ICMA Agreement Among Managers New York Law Version 1 (the



“**Agreement Among Managers**”) as amended in the manner set out below. For purposes of the Agreement Among Managers, “Managers” means the Underwriters, “Lead Manager” means, collectively, BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International, “Settlement Lead Manager” means Merrill Lynch International, “Stabilising Manager” means Merrill Lynch International and “Subscription Agreement” means this Agreement. Clause 3 of the Agreement Among Managers shall be deleted in its entirety and replaced with Section 10 of this Agreement.

#### 24. Recognition of the U.S. Special Resolution Regimes.

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 24, “BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); “Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b), (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b) or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b); “Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and “U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

25. Solely for the purposes of the requirements of Article 9(8) of the MIFID Product Governance rules under EU Delegated Directive 2017/593 (the “Product Governance Rules”) regarding the mutual responsibilities of manufacturers under the Product Governance Rules: each of Citigroup Global Markets Limited, BNP Paribas, Deutsche Bank AG, London Branch and Merrill Lynch International (each a “Manufacturer” and together “the Manufacturers”) acknowledges to each other Manufacturer that it understands the responsibilities conferred upon it under the Product Governance Rules relating to each of the product approval process, the target market and the proposed distribution channels as applying to the Securities and the related information set out in the Prospectus in connection with the Securities; and the other Underwriters and the Company note the application of the Product Governance Rules and acknowledge the target market and distribution channels identified as applying to the Securities by the Manufacturers and the related information set out in the Prospectus in connection with the Securities.

[ *Signature Pages Follow* ]

If the foregoing is in accordance with your understanding, please sign and return to us the enclosed duplicates hereof, and upon the acceptance hereof by you, on behalf of each of the Underwriters, this letter and such acceptance hereof shall constitute a binding agreement between each of the Underwriters and the Company.

Very truly yours,

AIR PRODUCTS AND CHEMICALS, INC.

By: /s/ M. Scott Crocco

Name: M. Scott Crocco

Title: Executive Vice President and Chief Financial  
Officer

[ *Signature Page to Underwriting Agreement* ]

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Accepted as of the date hereof:

BNP PARIBAS

By: /s/ Hugh Pryse-Davies  
Name: Hugh Pryse-Davies  
Title: Authorised Signatory

By: /s/ Benedict Foster  
Name: Benedict Foster  
Title: Authorised Signatory

[ *Signature Page to Underwriting Agreement* ]

By: /s/ Julia Bardin  
Name: Julia Bardin  
Title: Delegated Signatory

[ *Signature Page to Underwriting Agreement* ]

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DEUTSCHE BANK AG, LONDON BRANCH

By: /s/ Benzion Smilchensky  
Name: Benzion Smilchensky  
Title: Managing Director

DEUTSCHE BANK AG, LONDON BRANCH

By: /s/ John C. McCabe  
Name: John C. McCabe  
Title: Managing Director

[ *Signature Page to Underwriting Agreement* ]

By: /s/ Laurie Campbell  
Name: Laurie Campbell  
Title: Managing Director

[ *Signature Page to Underwriting Agreement* ]

SCHEDULE I

Underwriting Agreement dated April 28, 2020

Registration No. 333-221729

Underwriters: BNP Paribas; Citigroup Global Markets Limited; Deutsche Bank AG, London Branch; Merrill Lynch International

Purchase Price and Description of Securities:

**0.500% Notes due 2028:**

Title:	0.500% Notes due 2028 (the “2028 Notes”)
Principal amount:	€500,000,000
Purchase price:	99.200% of the principal amount of the 2028 Notes plus accrued interest from April May 5, 2020
Offering price:	99.625% of the principal amount of the 2028 Notes plus accrued interest from May 5, 2020
Maturity date:	May 5, 2028
Interest:	Accruing from May 5, 2020 payable on May 5 of each year, commencing on May 5, 2021.
Optional Redemption:	Redeemable by the Company at any time prior to February 5, 2028, at a make—whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after February 5, 2028, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.
Redemption of Notes for Tax Reasons:	The Company may also redeem the 2028 Notes in whole, but not in part, upon the occurrence of certain tax events described under the heading “ <i>Description of Notes—Redemption for Tax Reasons</i> ” in the Prospectus at a redemption price equal to 100% of their principal amount, together with accrued and unpaid interest on the 2028 Notes to, but not including, the date fixed for redemption.

**0.800% Notes due 2032:**

Title:	0.800% Notes due 2032 (the “2032 Notes”)
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Principal amount:	€500,000,000
Purchase price:	98.943% of the principal amount of the 2032 Notes plus accrued interest from May 5, 2020
Offering price:	99.443% of the principal amount of the 2032 Notes plus accrued interest from May 5, 2020
Maturity date:	May 5, 2032
Interest:	Accruing from May 5, 2020 payable on May 5 of each year, commencing on May 5, 2021.
Optional Redemption:	Redeemable by the Company at any time prior to February 5, 2032, at a make whole redemption price described under the heading “ <i>Description of Notes—Optional Redemption</i> ” in the Prospectus, and on or after February 5, 2032, at 100% of the principal amount to be redeemed, plus, in each case, accrued and unpaid interest thereon to, but excluding, the redemption date.
Redemption of Notes for Tax Reasons:	The Company may also redeem the 2032 Notes in whole, but not in part, upon the occurrence of certain tax events described under the heading “ <i>Description of Notes—Redemption for Tax Reasons</i> ” in the Prospectus at a redemption price equal to 100% of their principal amount, together with accrued and unpaid interest on the 2032 Notes to, but not including, the date fixed for redemption.

**For each of the 2028 Notes and the 2032 Notes (together, the “Notes”):**

Sinking fund provisions: None.

Change of Control Triggering Event: If the Company experiences specific kinds of change of control accompanied by a decline in a rating by two ratings agencies, it will be required to offer to purchase the Notes from the holders at a purchase price equal to 101% of the principal amount thereof, plus accrued and unpaid interest to, but excluding, the repurchase date, as described under the heading “*Description of Notes—Change of Control and Ratings Decline*” in the Prospectus.

Closing Date, Time and Location: May 5, 2020, 10:00 a.m. London time, at the offices of Davis Polk & Wardwell LLP, 450 Lexington Avenue, New York, NY 10017 or at such other place, time or date as the Underwriters and the Company mutually agree.



Other Terms:

1. Issuer Free Writing Prospectuses not included in the Pricing Disclosure Package: Electronic roadshow presentation
2. Contact Information for notices to the Underwriters:
  - A. Citigroup Global Markets Limited  
Citigroup Centre, Canada Square  
Canary Wharf  
London E145LB, United Kingdom  
Fax: +44 20 7986 1927  
Attention: Syndicate Desk
  - B. BNP Paribas  
10 Harewood Avenue  
London NW1 6AA, United Kingdom  
Telephone: +44 (0) 20 7595 8222  
Fax: +44 (0) 20 7595 2555  
Attention: Fixed Income Syndicate
  - C. Deutsche Bank AG, London Branch  
Winchester House  
1 Great Winchester Street  
London EC2N2DB, United Kingdom  
Facsimile: +44 207 545 4361  
Attention: DCM Debt Syndicate
  - D. Merrill Lynch International  
2 King Edward Street  
London EC1A 1HQ, United Kingdom  
Tel: +44 207 995 3966  
Fax: +44 207 995 0048  
Email: dcm\_london@bofa.com  
Attention: Syndicate Desk
3. Applicable Time: 6:00 p.m. London time on the date of this Agreement

SCHEDULE II

<u>Underwriter</u>	<u>Principal Amount of 2028 Notes to be Purchased</u>	<u>Principal Amount of 2032 Notes to be Purchased</u>
BNP Paribas	€ 125,000,000	€ 125,000,000
Citigroup Global Markets Limited	125,000,000	125,000,000
Deutsche Bank AG, London Branch	125,000,000	125,000,000
Merrill Lynch International	125,000,000	125,000,000
<b>Total</b>	<b>€ 500,000,000</b>	<b>€ 500,000,000</b>

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AIR PRODUCTS AND CHEMICALS, INC.

AND

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,  
Trustee

INDENTURE

Dated as of April 30, 2020

Unsecured Debt Securities

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**CROSS-REFERENCE TABLE\***

of provisions of Trust Indenture Act of 1939 with this Indenture:

<b>SECTION OF THE ACT</b>	<b>SECTION OF INDENTURE</b>
310 (a)(1),(2) and (5)	6.9
310 (a)(3) and (4)	Not applicable
310 (b)	6.8 and 6.10(b)
310 (c)	Not applicable
311 (a) and (b)	6.13
311 (c)	Not applicable
312 (a)	4.1 and 4.2(a)
312 (b) and (c)	4.2(b) and (c)
313 (a)	4.4
313 (b)(1)	Not applicable
313 (b)(2)	4.4
313 (c)	4.4
313 (d)	4.4
314 (a)(1),(2) and (3)	4.3
314 (a)(4)	3.5
314 (b)	Not applicable
314 (c)(1) and (2)	11.5
314 (c)(3)	Not applicable
314 (d)	Not applicable
314 (e)	11.5
314 (f)	3.5
315 (a), (c) and (d)	6.1
315 (b)	5.11
315 (e)	5.12
316 (a)(1)	5.1 and 5.9
316 (a)(2)	Omitted
316 (a) last sentence	7.4
316 (b)	5.6
317 (a)	5.2
317 (b)	3.4
318 (a)	11.7

\*This cross-reference table is not, for any purpose, to be deemed a part of the Indenture as executed.

Attention should also be directed to Section 318(c) of the Trust Indenture Act, which provides that the provisions of Sections 310 to and including Section 317 of the Trust Indenture Act are a part of and govern every qualified indenture, whether or not physically contained therein.

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THIS INDENTURE, dated as of April 30, 2020, between AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), and THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., a national banking association organized and existing under the laws of the United States (the “Trustee”).

WITNESSETH:

WHEREAS, the Issuer has duly authorized the issue from time to time of its unsecured debentures, notes or other evidences of indebtedness to be issued in one or more series (the “Securities”) up to such principal amount or amounts as may from time to time be authorized in accordance with the terms of this Indenture and, to provide, among other things, for the authentication, delivery and administration thereof, the Issuer has duly authorized the execution and delivery of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid and binding agreement of the Issuer in accordance with its terms, have been done;

NOW, THEREFORE:

In consideration of the premises and the purchases of the Securities by the Holders thereof, the Issuer and the Trustee mutually covenant and agree for the equal and proportionate benefit of the respective Holders from time to time of the Securities or of series thereof as follows:

**ARTICLE ONE**

**DEFINITIONS**

Section 1.1 Certain Terms Defined. The following terms (except as otherwise expressly provided or unless the context otherwise requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section.

“Attributable Debt” in respect of a Sale and Lease-Back Transaction (as defined in Section 3.7) means, as to any particular lease under which any person is at the time liable, at any date as of which the amount thereof is to be determined, the total net amount of rent required to be paid by such person under such lease during the remaining term thereof, excluding renewals, discounted at the rate of interest implicit in the terms of such lease (as determined in good faith by the Issuer). If and to the extent the amount of any lease payment during any future period is not definitely determinable under the lease in question, the amount of such lease-payment will be estimated in such reasonable manner as the Issuer may in good faith determine. The net amount of rent required to be paid under any such lease for any such period shall be the amount of the rent payable by the lessee with respect to such period, after excluding amounts required to be paid, whether or not designated as rent or additional rent, on account of maintenance and repairs, insurance, taxes, assessments, water rates or similar charges and any amounts required to be paid by such lessee contingent upon the amount of sales, maintenance and repairs, insurance, taxes, assessments, water rates or similar charges. In the case of any lease which is terminable by the lessee upon the payment of a penalty, such net amount may, if the Issuer so elects, also include the amount of such penalty, in which case no rent shall be considered as required to be paid under such lease subsequent to the first date upon which it may be so terminated.

“Board of Directors” means either the Board of Directors of the Issuer or any committee of such Board duly authorized to act hereunder.

“business day” means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York or (i) with respect to Securities denominated in a Foreign Currency, in the principal financial center of the country of such Foreign Currency or (ii) with respect to Securities denominated in euros or which will bear interest based on a specified percentage of London Interbank offered quotations (“LIBOR”) (or a substitute or successor to LIBOR), in London, England, in each case, unless otherwise specified with respect to any series of Securities established pursuant to Section 2.3.

“Commission” means the United States Securities and Exchange Commission as from time to time constituted or, if at any time after the execution and delivery of this Indenture such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act of 1939, then the body performing such duties on said date.

“Company Order” means a written request or order signed in the name of the Issuer by any Officer and delivered to the Trustee.

“Consolidated Current Liabilities” means, as of any date of determination, the aggregate of the current liabilities of the Company and its consolidated Subsidiaries appearing on the Company’s most recently available consolidated balance sheet preceding the date of determination, prepared in accordance with GAAP, excluding the amount of those liabilities which are by their terms extendable or renewable at the option of the obligor to a date more than 12 months after the date as of which the amount is being determined.

“Consolidated Net Tangible Assets” means, as of any date of determination, the total amount of all assets appearing on the Company’s most recently available consolidated balance sheet preceding the date of determination prepared in accordance with GAAP (after deducting related depreciation, depletion, amortization and all other valuation reserves which, in accordance with GAAP, are set aside in connection with the business conducted), less Consolidated Current Liabilities and goodwill, trademarks, patents, unamortized debt discount and all other like segregated intangible assets properly classified as intangible assets under GAAP, all as determined in accordance with GAAP; provided, that Consolidated Net Tangible Assets shall be calculated after giving pro forma effect to any investments, acquisitions or dispositions occurring outside the ordinary course of business and subsequent to the date of such balance sheet, as well as any transaction giving rise to the need to calculate Consolidated Net Tangible Assets (including the application of the proceeds therefrom, as applicable).

“Corporate Trust Office” means the office of the Trustee at which at any particular time its corporate trust business shall be administered which office at the date hereof is located at 10161 Centurion Parkway North, Jacksonville, Florida 32256, or such other address as the Trustee may designate from time to time by notice to the Holders and the Issuer, or the principal corporate trust office of any successor Trustee (or such other address as such successor Trustee may designate from time to time by notice to the Holders and the Issuer).

“Debt” means indebtedness, other than indebtedness among the Issuer and its Restricted Subsidiaries, for money borrowed by the Issuer or a Restricted Subsidiary which in accordance with GAAP would be reflected on the balance sheet of the Issuer or such Restricted Subsidiary, as applicable, as a liability as of the date on which the Debt is to be determined; provided that if any amount of indebtedness among the Issuer and its Restricted Subsidiaries for money borrowed is transferred to any person other than the Issuer or a Restricted Subsidiary, then such indebtedness shall be deemed to be Debt issued on the date of transfer.

“Depository” means, with respect to the Securities of any series issuable or issued, in whole or in part, in the form of one or more Global Securities, the person designated as Depository by the Issuer pursuant to Section 2.3(15) until a successor replaces it pursuant to the provisions hereof, and thereafter means each person who is then a Depository hereunder, and if at any time there is more than one such person, “Depository” as used with respect to the Securities of any series or part thereof shall mean the Depository with respect to the Securities of that series or part thereof.

“Dollar” means the coin or currency of the United States of America as at the time of payment is legal tender for the payment of public and private debts.

“Event of Default” has the meaning specified in Section 5.1.

“Exchange Rate” means, unless otherwise specified pursuant to Section 2.3 for Securities of any series, (a) with respect to Dollars in which payment is to be made on a series of Securities denominated in a Foreign Currency, the noon Dollar buying rate for that currency for cable transfers in The City of New York on the record date with respect to an interest payment date or the fifteenth day immediately preceding the maturity of an installment of principal, or on such other date provided therefore, as the case may be, as certified for customs purposes by the Federal Reserve Bank of New York and quoted by an agent appointed by the Company (the “Exchange Rate Agent”); and (b) with respect to Foreign Currency in which payment is to be made on a series of Securities converted into Dollars pursuant to Section 2.13(e), the noon Dollar selling rate for that currency for cable transfers in The City of New York on the record date with respect to an interest payment date or the fifteenth day immediately preceding the maturity of an installment of principal or on such other date provided herein, as the case may be, as certified for customs purposes by the Federal Reserve Bank of New York and quoted by the Exchange Rate Agent. If for any reason such rates are not available with respect to one or more currencies for which an Exchange Rate is required, the Company shall use such quotation of the Federal Reserve Bank of New York as of the most recent available date, or quotations from one or more commercial banks in The City of New York or in the country of issue of the currency in question, or such other quotations as the Company, in each case, shall deem appropriate. If there is more than one market for dealing in any currency by reason of foreign exchange regulations or otherwise, the market to be used in respect of such currency shall be the largest market upon which a nonresident issuer of securities designated in such currency could purchase such currency in order to make payments in respect of such securities.

“ Exchange Rate Agent ” has the meaning specified in “ Exchange Rate ” above.

“ Exchange Rate Officer’s Certificate ” means, with respect to any date for the payment of principal of (and premium, if any) and interest on any series of Securities, a certificate setting forth the applicable Exchange Rate as of the record date with respect to an interest payment date or the fifteenth day immediately preceding the maturity of an installment of principal or such other date as provided herein, as the case may be, and the amounts payable in Dollars in respect of the principal of (and premium, if any) and interest on Securities denominated in any Foreign Currency, and signed by any Officer of the Issuer and delivered to the Trustee.

“ Foreign Currency ” means a currency issued by the government of any country other than the United States of America and acceptable to the Trustee.

“ Foreign Government Securities ” means, with respect to Securities of any series that are denominated in a Foreign Currency, Securities that are (i) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (ii) obligations of a person controlled or supervised by and acting as an agency or instrumentality of such government the timely payment of such is unconditionally guaranteed as a full faith and credit obligation by such government, which, in either case under clauses (i) or (ii), are not callable or redeemable at the option of the issuer thereof.

“ GAAP ” means, with respect to any computations required or permitted hereunder, generally accepted accounting principles in effect in the United States as in effect from time to time (including principles of consolidation where appropriate); provided, however if the Issuer is required by the Commission to adopt (or is permitted to adopt and so adopts) a different accounting framework, including but not limited to the International Financial Reporting Standards, “GAAP” shall mean such new accounting framework as in effect from time to time, including, without limitation, in each case, those accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as approved by a significant segment of the accounting profession.

“ Global Security ” means a Security issued to evidence all or a part of any series of Securities, registered in the name of, and issued to, the Depository for such series or part thereof or such Depository’s nominee and representing the amount of uncertificated Securities of such series specified thereon.

“ Holder ,” “ Holder of Securities ,” “ Securityholder ” or other similar terms means the registered holder of any Security.

“ Indenture ” means this instrument as originally executed and delivered or, if amended or supplemented as herein provided, as so amended or supplemented, or both, and shall include the forms and terms of particular series of Securities established as contemplated hereunder and the provisions of the Trust Indenture Act of 1939 that are deemed to be part of and to govern this instrument and any supplement thereto; provided, however, that in the event that this Indenture is supplemented or amended by one or more indentures supplemental hereto which are only applicable to certain series of Securities, the term “Indenture” for such series of Securities shall only include the supplemental indentures applicable thereto.

“interest” means, unless the context otherwise requires, interest payable on any Securities, and when used with respect to any Original Issue Discount Security that by its terms bears interest only after maturity, interest payable after maturity.

“Issuer” or “Company” means (except as otherwise provided in Article Six) AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation, and, subject to Article Nine, its successors and assigns.

“Officer” means any of the chairman of the Board of Directors, any vice chairman of the Board of Directors, the Chief Executive Officer, the Chief Financial Officer, the president, any vice president, the treasurer, any assistant treasurer, the secretary or any assistant secretary of the Issuer.

“Officer’s Certificate” means a certificate signed by any Officer and delivered to the Trustee. Each such certificate shall include the statements provided for in Section 11.5, if and to the extent required hereby.

“Opinion of Counsel” means an opinion in writing signed by legal counsel who may be an employee of or counsel to the Issuer or who may be other counsel reasonably acceptable to the Trustee. Each such opinion shall include the statements provided for in Section 11.5, if and to the extent required hereby.

“original issue date” of any Security (or portion thereof) means the earlier of (a) the date of such Security or (b) the date of any Security (or portion thereof) for which such Security was issued (directly or indirectly) on registration of transfer, exchange or substitution.

“Original Issue Discount Security” means any Security that is issued with “original issue discount” within the meaning of Section 1273(a) of the Internal Revenue Code and the regulations thereunder, or any successor provision, and any other Security designated by the Company as issued with original issue discount for United States federal income tax purposes.

“outstanding” when used with reference to Securities, shall, subject to the provisions of Section 7.4, mean, as of any particular time, all Securities authenticated and delivered by the Trustee under this Indenture, except:

(a) Securities theretofore canceled by the Trustee or delivered to the Trustee for cancellation;

(b) Securities, or portions thereof, for the payment or redemption of which moneys in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Issuer) or shall have been set aside, segregated and held in trust by the Issuer (if the Issuer shall act as its own paying agent) for the Holders of such Securities or Securities as to which the Issuer’s obligations have been satisfied and discharged pursuant to Article Ten, provided that if such Securities are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as herein provided, or provision satisfactory to the Trustee shall have been made for giving such notice; and

(c) Securities in substitution for which other Securities shall have been authenticated and delivered, or which shall have been paid, pursuant to the terms of Section 2.9 (except with respect to any such Security as to which proof satisfactory to the Trustee is presented that such Security is held by a person in whose hands such Security is a legal, valid and binding obligation of the Issuer).

In determining whether the Holders of the requisite principal amount of outstanding Securities of any or all series have given any request, demand, authorization, direction, notice, consent or waiver or performance of any other action hereunder, (i) the principal amount of an Original Issue Discount Security that shall be deemed to be outstanding for such purposes shall be the amount of the principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the maturity thereof pursuant to Section 5.1 and (ii) the principal amount of a Security denominated in a Foreign Currency or currency unit shall be the Dollar equivalent (as determined by the Company in good faith) as of the date of original issuance of such Security, of the principal amount (or, in the case of an Original Issue Discount Security, the Dollar equivalent (as determined by the Company in good faith) of the amount determined as provided in (i) above) of such Security.

“Periodic Offering” means an offering of Securities of a series from time to time, the specific terms of which Securities, including without limitation the rate or rates of interest, if any, thereon, the stated maturity or maturities thereof and the redemption provisions, if any, with respect thereto, are to be determined by the Issuer or its agents upon the issuance of such Securities.

“person” means any individual, corporation, limited liability company, partnership, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or other entity.

“Principal Property” means any manufacturing plant, research facility or warehouse owned by the Issuer or any Subsidiary which is located within the United States of America and has a net book value exceeding the greater of 3% of the total assets of the Issuer and its consolidated Subsidiaries or \$50.0 million, as shown on the Issuer’s most recent audited consolidated balance sheet; provided, however, that the term “Principal Property” shall not include any such plant, facility or warehouse or portion thereof which the Board of Directors by resolution declares is not of material importance to the total business conducted by the Issuer and its Subsidiaries as an entirety.

“Registrar” has the meaning specified in Section 2.8.

“Responsible Officer” means, when used with respect to the Trustee, any officer within the corporate trust department of the Trustee, including any vice president, assistant vice president, senior associate, assistant secretary, assistant treasurer, trust officer or any other officer of the Trustee who customarily performs functions similar to those performed by the persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of such person’s knowledge of and familiarity with the particular subject and who shall have direct responsibility for the administration of this Indenture.

“Restricted Subsidiary” means any Subsidiary (a) substantially all of the property of which is located, or substantially all of the business of which is carried on, within the United States of America and (b) which owns or leases a Principal Property.

“Security” or “Securities” has the meaning stated in the first recital of this Indenture, or, as the case may be, Securities that have been authenticated and delivered under this Indenture.

“Specified Currency” means the currency in which the Securities of any series are payable, in accordance with their terms or pursuant to an election made by one or more Securityholders pursuant to Section 2.3 or Section 2.13.

“Subsidiary” of a person shall mean (a) any corporation more than 50% of the outstanding securities having ordinary voting power of which shall at the time be owned or controlled, directly or indirectly, by such person or by one or more of its Subsidiaries or by such person and one or more of its Subsidiaries, or (b) any partnership, limited liability company, association, joint venture or similar business organization more than 50% of the ownership interests having ordinary voting power of which shall at the time be so owned or controlled. Unless otherwise expressly provided, all references herein to a “Subsidiary” shall mean a Subsidiary of the Issuer.

“Tranche” means a group of Securities which (a) are of the same series and (b) have identical terms except as to principal amount and date of issuance.

“Trustee” means the person identified as “Trustee” in the first paragraph hereof and, subject to the provisions of Article Six, shall also include any successor trustee.

“Trust Indenture Act of 1939” means the Trust Indenture Act of 1939, as amended and in force at the date as of which this Indenture was originally executed; provided, however, that in the event the Trust Indenture Act of 1939 is amended after such date, “Trust Indenture Act of 1939” means, to the extent required by any such amendment, the Trust Indenture Act of 1939, as so amended.

“U.S. Government Obligations” means non-callable securities which are either (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged, (ii) obligations of a person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the timely payment of which are unconditionally guaranteed by the full faith and credit of the United States of America, (iii) depository receipts issued by a bank or trust company as custodian with respect to any U.S. Government Obligations or any specific payment of interest or principal due on any U.S. Government Obligations held by such custodian for the account of the Holder of the depository receipts provided that, except as required by law, no deduction may be made by the custodian from the amount payable to the Holder of such depository receipts from the amount received by the custodian in respect of the U.S. Government Obligations or the specific payments of interest or principal due thereon evidenced by such depository receipts, or (iv) any combination of the foregoing U.S. Government Obligations (including any securities described in clause (i) or (ii) issued or held in book-entry form on the books of the Federal Reserve Bank of New York).

“vice president” when used with respect to the Issuer or the Trustee, means any vice president, whether or not designated by a number or a word or words added before or after the title of “vice president.”

“Yield to Maturity” means the yield to maturity on a series of securities, calculated at the time of issuance of such series, or, if applicable, at the most recent redetermination of interest on such series, and calculated in accordance with accepted financial practice.

Section 1.2 Rules of Construction. For all purposes of this Indenture and of any indenture supplemental hereto (except as otherwise expressly provided or unless the context otherwise requires):

- (1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;
- (2) unless otherwise defined in this Indenture or the context otherwise requires, all terms used in this Indenture that are defined in the Trust Indenture Act of 1939 or the definitions of which in the Securities Act of 1933 are referred to in the Trust Indenture Act of 1939, shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of this Indenture;
- (3) all accounting terms used herein and not expressly defined shall have the meanings assigned to such terms in accordance with GAAP;
- (4) the words “herein,” “hereof” and “hereunder” and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision;
- (5) “or” is not exclusive; and
- (6) any gender used in this Indenture shall be deemed to include the neuter, masculine or feminine gender.

## **ARTICLE TWO**

### **SECURITIES**

Section 2.1 Forms Generally. The Securities of each series shall be in the form (not inconsistent with this Indenture) as shall be established by or pursuant to a resolution of the Board of Directors, an Officer’s Certificate or in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture and may have such letters, numbers or other marks of identification or designation and such legends or endorsements placed thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Indenture, or as may be required to comply with any law or with any rules or regulations pursuant thereto, or with any



rules or regulations of any securities exchange on which any series of the Securities may be listed or of any automated quotation system on which any such series may be quoted, or to conform to general usage or as may be determined by any of the officers executing such Securities, as evidenced by their execution of such Securities.

The definitive Securities shall be printed or produced in any other manner, all as determined by any of the officers executing such Securities, as evidenced by their execution of such Securities.

The terms and provisions of the Securities shall constitute, and are hereby expressly made, a part of this Indenture, and, to the extent applicable, the Issuer and the Trustee, by their execution and delivery of this Indenture expressly agree to such terms and provisions and to be bound thereby.

Section 2.2 Form of Trustee 's Certificate of Authentication. The Trustee's certificate of authentication on all Securities shall be in substantially the following form:

TRUSTEE'S CERTIFICATE OF AUTHENTICATION

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

Date of authentication: \_\_\_\_\_

[Insert full name of Trustee], as Trustee

By: \_\_\_\_\_  
Authorized Signatory

Section 2.3 Amount Unlimited; Issuable In Series. The aggregate principal amount of Securities which may be authenticated and delivered under this Indenture is unlimited.

The Securities may be issued in one or more series. There shall be established in or pursuant to a resolution of the Board of Directors, an Officer's Certificate, or one or more indentures supplemental hereto, prior to the issuance of Securities of any series,

(1) the title of the Securities of the series (which shall distinguish the Securities of the series from all other Securities, except to the extent that additional Securities of an existing series are being issued);

(2) any limit upon the aggregate principal amount of the Securities of the series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Sections 2.8, 2.9, 2.11 or 12.3) and whether the Securities of the series are to be issued as Original Issue Discount Securities and, if so, the amount of discount with which such Securities may be issued;

(3) the date or dates on which the principal of and premium, if any, on the Securities of the series are or may be payable or the method by which such date or dates shall be determined or extended;

(4) (i) the rate or rates at which the Securities of the series, or any Tranche thereof, shall bear interest, if any, or the method by which such rate or rates are determined, (ii) whether such interest shall be payable in cash or additional Securities of the same series or shall accrue and increase the aggregate principal amount outstanding of such series (including if such Securities were originally issued at a discount), (iii) the date or dates from which such interest shall accrue, or the method by which such date or dates shall be determined, (iv) the interest payment dates on which such interest shall be payable and the record dates for the determination of Holders to whom interest is payable on such interest payment dates or the method by which such date or dates shall be determined, and (v) the right, if any, to extend or defer interest payments and the duration of such extension or deferral;

(5) the place or places, if any, in addition to or instead of the Corporate Trust Office of the Trustee where the principal and any interest on Securities of the series, or any Tranche thereof, shall be payable, and where Securities of any series may be presented for registration of transfer, exchange or conversion, and the place or places where notices and demands to or upon the Issuer in respect of the Securities of such series may be made;

(6) the price or prices at which, the period or periods within which and the terms and conditions upon which Securities of the series, or any Tranche thereof, may be redeemed, in whole or in part, at the option of the Issuer, if the Issuer is to have that option;

(7) the obligation or right, if any, of the Issuer to redeem, purchase or repay Securities of the series, or any Tranche thereof, pursuant to any sinking fund or analogous provisions or at the option of a Holder thereof and the price or prices at which and the period or periods within which and the terms and conditions upon which Securities of the series, or any Tranche thereof, shall be redeemed, purchased or repaid, in whole or in part, pursuant to such obligation;

(8) if other than denominations of \$2,000 and any integral multiple of \$1,000 thereof for Securities denominated in Dollars, the denominations in which Securities of the series, or any Tranche thereof, shall be issuable;

(9) if other than the principal amount thereof, the portion of the principal amount of Securities of the series, or any Tranche thereof, which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 5.1 or provable in bankruptcy pursuant to Section 5.2;

(10) any addition to or change in the Events of Default which applies to any Securities of the series and any change in the right of the Trustee or the requisite Holders of such Securities to declare the principal amount thereof due and payable pursuant to Section 5.1 and any addition or change in the provisions set forth in Article Five which applies to Securities of the series;

(11) the forms or forms of the Securities of the series, including, without limitation, such legends as may be required by applicable law;

(12) if other than Dollars, the Foreign Currency in which payment of the principal of (and premium, if any) and interest, if any, on any of the Securities of the series, or any Tranche thereof, shall be payable and any other terms concerning such payment, including the Exchange Rate Agent, if any, and applicable Exchange Rates (or method for calculation thereof), if any, for such series;

(13) if the principal of (and premium, if any) or interest, if any, on any of the Securities of the series, or any Tranche thereof, are to be payable at the election of the Issuer or a Holder thereof, or under some or all other circumstances, in a coin or currency or currencies, or currency unit or units, other than that in which the Securities are denominated, the period or periods within which, and the terms and conditions upon which, such election may be made, or the other circumstances under which any of the Securities are to be so payable (including the Exchange Rate Agent and applicable Exchange Rates (or method for calculation thereof)), and any provision requiring the Holder to bear currency exchange costs by deduction from such payments;

(14) if the amount of payments of principal (and premium, if any) or interest, if any, on any of the Securities of the series, or any Tranche thereof, may be determined with reference to an index based on (i) a coin or currency or currencies, or currency unit or units, other than that in which such Securities are stated to be payable, or a commodity or commodities or (ii) any other index, formula or other method not inconsistent with the provisions of this Indenture, then in each case (i) and (ii), the manner in which such amounts shall be determined;

(15) whether the Securities shall be issued, in whole or in part, in the form of one or more Global Securities and, in such case, (a) the Depositary therefor and (b) the terms and conditions, if any, upon which any such Global Security may be exchanged in whole or in part for definitive Securities represented thereby, other than as set forth in Section 2.14 hereof;

(16) the date as of which any Global Security of the series shall be dated if other than the original issuance of the first Security of the series to be issued;

(17) any trustees, authenticating or paying agents, warrant agents, transfer agents or registrars with respect to the Securities of the series and any addition or change in the provisions related to compensation and reimbursement of the Trustee which applies to Securities of such series;

(18) the guarantors, if any, of the Securities of the series, and the extent of the guarantees (including provisions relating to seniority, subordination, and the release of the guarantors), if any, and any additions or changes to permit or facilitate guarantees of such Securities;

(19) if the provisions of Article Ten shall not be applicable with respect to the Securities of such series; or any addition to or change in the provisions of Article Ten and, if the Securities of any series are payable in a Foreign Currency, the currency or the nature of the foreign government obligations to be deposited with the Trustee pursuant to Section 10.1 or Section 10.2;

(20) if the Securities of the series are to be convertible into or exchangeable for any securities or property of any person (including the Issuer), the terms and conditions upon which such Securities will be so convertible or exchangeable, and any additions or changes, if any, to permit or facilitate such conversion or exchange;

(21) whether the Securities of such series are subject to subordination and the terms of such subordination;

(22) any restriction or condition on the transferability of the Securities of such series;

(23) any addition or change in the provisions related to supplemental indentures set forth in Article Eight which applies to Securities of such series;

(24) provisions, if any, granting special rights to Holders upon the occurrence of specified events;

(25) any addition to or change in the covenants set forth in Article Three which applies to Securities of the series; and

(26) any other terms of the Securities of the series, or any Tranche thereof.

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to such resolution of the Board of Directors, Officer's Certificate or in any such indenture supplemental hereto. With respect to Securities of a series subject to a Periodic Offering, general terms or parameters for Securities of such series may be stated, providing either that the specific terms of particular Securities of such series shall be specified in a Company Order or that such terms shall be determined by the Issuer or its agents in accordance with a Company Order as contemplated by the last paragraph of Section 2.4.

Unless otherwise specified with respect to the Securities of any series pursuant to this Section 2.3, the Issuer may, at its option, at any time and from time to time, issue additional Securities of any series of Securities previously issued under this Indenture which together shall constitute a single series of Securities under this Indenture.

Section 2.4 Authentication And Delivery Of Securities. At any time and from time to time after the execution and delivery of this Indenture, the Issuer may deliver Securities of any series executed by the Issuer to the Trustee for authentication together with a Company Order (specifying the amount of Securities to be authenticated and the date on which the original issue of Securities is to be authenticated) for the authentication and delivery of such Securities, and the Trustee shall thereupon authenticate and deliver said Securities to the Issuer without any further

action by the Issuer; provided that, with respect to Securities of a series subject to a Periodic Offering (a) such Company Order may be delivered by the Issuer to the Trustee prior to the delivery to the Trustee of such Securities for authentication and delivery, (b) the Trustee shall authenticate and deliver Securities of such series for original issue from time to time, in an aggregate principal amount not exceeding the aggregate principal amount established for such series, pursuant to a Company Order or pursuant to such procedures acceptable to the Trustee as may be specified from time to time by a Company Order, (c) the maturity date or dates, original issue date or dates, interest rate or rates and any other terms of Securities of such series shall be determined by Company Order or pursuant to such procedures and (d) if provided for in such procedures, such Company Order may authorize authentication and delivery pursuant to electronic instructions from the Issuer or its duly authorized agent or agents. In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities the Trustee shall be entitled to receive, and (subject to Section 6.1) shall be fully protected in relying upon:

(1) copies of the Certificate of Incorporation and Bylaws of the Company, as amended to the date of such authentication, in each case certified by the secretary or an assistant secretary of the Issuer;

(2) a copy of any resolution or resolutions of the Board of Directors relating to the issuance of such series, in each case certified by the secretary or an assistant secretary of the Issuer;

(3) if required pursuant to Section 2.3, a copy of the Officer's Certificate or supplemental indenture setting forth the terms of the Securities of a series;

(4) an Officer's Certificate, prepared in accordance with Section 11.5, stating that all conditions precedent, if any, provided for in this Indenture with respect to the authentication and delivery of the Securities of a series by the Trustee have been complied with; and

(5) one or more Opinions of Counsel prepared in accordance with Section 11.5, or at the option of the Company, a letter addressed to the Trustee permitting it to rely on one or more Opinions of Counsel, substantially to the effect that:

(a) the form or forms and terms of such Securities have been duly authorized by the Issuer;

(b) such Securities, when authenticated and delivered by the Trustee and issued by the Issuer in the manner and subject to any exceptions, assumptions and qualifications specified in such Opinions of Counsel, will constitute valid and binding obligations of the Issuer, entitled to the benefits provided by this Indenture and enforceable in accordance with their terms, subject to laws and principles of equity relating to or affecting generally the enforcement of creditors' rights, including without limitation bankruptcy and insolvency laws; and

(c) all conditions precedent, if any, provided for in this Indenture with respect to the authentication and delivery of the Securities of a series by the Trustee have been complied with; provided, however, that, with respect to Securities of a series subject to a Periodic Offering, the Trustee shall be entitled to receive such Officer's Certificate and Opinion of Counsel only once at or prior to the time of the first authentication of Securities of such series and that the opinions described in clauses (a) and (b) above may state, respectively, that:

(x) when the terms of such Securities shall have been established pursuant to a Company Order or pursuant to such procedures as may be specified from time to time by a Company Order, all as contemplated by and in accordance with an Officer's Certificate authorized by or pursuant to a resolution of the Board of Directors, such terms will have been duly authorized by the Company; and

(y) that such Securities when (1) executed by the Company, (2) completed, authenticated and delivered by the Trustee in accordance with this Indenture, (3) issued and delivered by the Issuer and (4) paid for, all as contemplated by and in accordance with the aforesaid Company Order or specified procedures, as the case may be, will have been duly issued under this Indenture and will constitute valid and legally binding obligations of the Issuer, entitled to the benefits provided by this Indenture, and enforceable in accordance with their terms, subject to laws and principles of equity relating to or affecting generally the enforcement of creditors' rights, including without limitation bankruptcy and insolvency laws.

With respect to Securities of a series subject to a Periodic Offering, the Trustee may conclusively rely, as to the authorization by the Issuer of any of such Securities, the form and terms thereof and the compliance with any conditions precedent provided for in this Indenture related to the authentication and delivery by the Trustee, upon the Officer's Certificate, Opinion of Counsel and other documents delivered pursuant to Sections 2.1 and 2.3 and this Section 2.4, as applicable, at or prior to the time of the first authentication of Securities of such series unless and until such certificate, opinion or other documents have been superseded or revoked. In connection with the authentication and delivery of Securities of a series subject to a Periodic Offering, the Trustee shall be entitled to assume that the Issuer's instructions to authenticate and deliver such Securities in the Company Order do not violate any rules, regulations or orders of any governmental agency or commission having jurisdiction over the Issuer.

The Trustee shall have the right to decline to authenticate and deliver any Securities under this Section 2.4 if the Trustee, being advised by counsel, determines that such action may not lawfully be taken or if the Trustee in good faith by its board of directors or board of trustees, executive committee, or a trust committee of directors or trustees and/or vice presidents shall determine that such action would expose the Trustee to personal liability.

Notwithstanding the provisions of Section 2.3 and of the preceding paragraph, if all Securities of a series are not to be originally issued at one time, it shall not be necessary to deliver the Officer's Certificate otherwise required pursuant to Section 2.3 or the Company Order, Officer's Certificate and Opinion of Counsel otherwise required pursuant to this Section 2.4 at or prior to the time of authentication of each Security of such series if such documents are delivered at or prior to the authentication upon original issuance of the first Security of such series to be issued. If the resolution of the Board of Directors, Officer's Certificate or

supplemental indenture establishing such Securities shall so permit, such Company Order may set forth procedures acceptable to the Trustee for the issuance of such Securities, including procedures to determine the interest rate or rates, stated maturity or maturities, date or dates of issuance and other terms of such Securities.

Section 2.5 Execution of Securities. The Securities shall be signed in the name and on behalf of the Issuer by the manual, facsimile or electronic signature of any Officer of the Issuer. Typographical and other minor errors or defects in any such reproduction of any such signature shall not affect the validity or enforceability of any Security that has been duly authenticated and delivered by the Trustee.

In case any officer of the Issuer who shall have signed any of the Securities shall cease to be such officer before the Security so signed shall be authenticated and delivered by the Trustee or disposed of by the Issuer, such Security nevertheless may be authenticated and delivered or disposed of as though the person who signed such Security had not ceased to be such officer of the Issuer; and any Security may be signed on behalf of the Issuer by such persons as, at the actual date of the execution of such Security, shall be the proper officers of the Issuer, although at the date of the execution and delivery of this Indenture any such person was not such officer.

Section 2.6 Certificate of Authentication. Only such Securities as shall bear thereon a certificate of authentication substantially in the form recited in Section 2.2, executed by the Trustee by the manual, facsimile or electronic signature of one of its authorized officers, shall be entitled to the benefits of this Indenture or be valid or obligatory for any purpose. Such certificate by the Trustee upon any Security executed by the Issuer shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the Holder is entitled to the benefits of this Indenture.

Section 2.7 Denomination and Date of Securities; Payments of Interest. The Securities of each series shall be issuable as registered securities without coupons and in such denominations as shall be specified as contemplated by Section 2.3. In the absence of any such specification with respect to the Securities of any series, the Securities of such series shall be issuable in denominations of \$2,000 and any integral multiple of \$1,000 in excess thereof. The Securities of each series shall be numbered, lettered, or otherwise distinguished in such manner or in accordance with such plans as the officers of the Issuer executing the same may determine with the approval of the Trustee as evidenced by the execution and authentication thereof.

Each Security shall be dated the date of its authentication, unless otherwise provided pursuant to Section 2.3 with respect to the Securities of such series. The Securities of each series shall bear interest, if any, from the applicable date and shall be payable on such dates, in each case, as shall be specified on the face of the form of security.

The person in whose name any Security of any series is registered at the close of business on any record date applicable to a particular series with respect to any interest payment date for such series shall be entitled to receive the interest, if any, payable on such interest payment date notwithstanding any transfer or exchange of such Security subsequent to the record date and prior to such interest payment date, except if and to the extent the Issuer shall default in the payment of the interest due on such interest payment date for such series, in which case such

defaulted interest shall be paid to the persons in whose names outstanding Securities of such series are registered at the close of business on a subsequent record date (which shall be not less than five business days prior to the date of payment of such defaulted interest) established by notice sent by the Issuer (with a copy to the Trustee) or by the Trustee on behalf of the Issuer (and at the Issuer's expense) to the Holders of Securities not less than 10 days preceding such subsequent record date.

The Issuer may make payment of any defaulted interest on Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may be listed, and upon such notice as may be required by such exchange, if, after written notice given by the Issuer to the Trustee of the proposed payment pursuant to this Section, such manner of payment shall be deemed practicable by the Trustee. Each Security delivered pursuant to any provision of this Indenture in exchange or substitution for, or upon registration of transfer of, any other Security shall carry all the rights to interest accrued and unpaid, and to accrue, which were carried by such other Security.

Section 2.8 Registration, Transfer and Exchange. The Issuer will keep at each office or agency to be maintained for the purpose as provided in Section 3.2 a register or registers for each series of Securities issued hereunder in which, subject to such reasonable regulations as it may prescribe, the registrar appointed by the Issuer (the "Registrar") will register, and will register the transfer of, Securities of such series as in this Article provided. Such register shall be in written form in the English language or in any other form capable of being converted into such form within a reasonable time. At all reasonable times such register or registers shall be open for inspection by the Trustee. The Issuer hereby appoints the Trustee at its Corporate Trust Office as Registrar in connection with the Securities and this Indenture, until such time as another person is appointed as such by the Issuer. The Registrar may have one or more co-registrars, and the term "Registrar" includes any co-registrar. The Company or any affiliate thereof may act as Registrar or co-registrar.

Upon due presentation for registration of transfer of any Security of any series at any such office or agency to be maintained for the purpose as provided in Section 3.2, the Issuer shall execute and the Trustee shall authenticate and deliver in the name of the transferee or transferees a new Security or Securities of the same series in authorized denominations for a like aggregate principal amount and tenor, having the same terms and conditions. The transfer of any Security shall not be valid as against the Issuer or the Trustee unless registered at the Registrar at the request of the Holder, or at the request of his, her or its attorney duly authorized in writing.

Subject to Section 2.14, any Security or Securities of any series may be exchanged for a Security or Securities of the same series in other authorized denominations, in an equal aggregate principal amount and of like tenor, having the same terms and conditions. Securities of any series to be exchanged shall be surrendered at any office or agency to be maintained by the Issuer for the purpose as provided in Section 3.2, and the Issuer shall execute and the Trustee shall authenticate and deliver in exchange therefor the Security or Securities of the same series which the Holder making the exchange shall be entitled to receive and of like tenor, having the same terms and conditions, bearing numbers not contemporaneously outstanding.



All Securities presented for registration of transfer, exchange, redemption or payment shall (if so required by the Issuer, the Trustee or the Registrar) be duly endorsed by, or be accompanied by a written instrument or instruments of transfer in form satisfactory to the Issuer, the Trustee and the Registrar, duly executed by the Holder thereof or his, her or its attorney duly authorized in writing.

The Issuer may require payment of a sum sufficient to cover any tax, assessment or other governmental charge that may be imposed in connection with any registration of transfer or exchange of Securities, other than those expressly provided in this Indenture to be made at the Issuer's own expense or without expense or charge to the Holders. No service charge shall be made for any such registration of transfer or exchange of Securities.

The Issuer shall not be required to register, transfer or exchange (a) any Securities of any series for a period beginning at the opening of business 15 days before the first transmission of a notice of redemption of Securities of such series selected or called for redemption pursuant to this Indenture and ending at the close of business on the day of such transmission, or (b) any Securities so selected, called or being called for redemption except, in the case of any Security where public notice has been given that such Security is to be redeemed in part, the portion thereof not so to be redeemed after the redemption date.

All Securities issued upon any registration of transfer or exchange of Securities shall be valid obligations of the Issuer, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered for such registration of such transfer or exchange.

Section 2.9 Mutilated, Defaced, Destroyed, Lost and Stolen Securities. In case any temporary or definitive Security of any series shall become mutilated, defaced or be destroyed, lost or stolen, the Issuer in its discretion may execute, and upon the written request of any officer of the Issuer, the Trustee shall authenticate and deliver, a new Security of the same series and of like tenor, having the same terms and conditions, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated or defaced Security, or in lieu of and substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substitute Security shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as may be required by them to indemnify and defend and to save each of them harmless and, in every case of destruction, loss or theft, evidence to their satisfaction of the destruction, loss or theft of such Security and of the ownership thereof.

Upon the issuance of any substitute Security, the Issuer may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith. In case any Security which has matured or is about to mature or has been called for redemption in full shall become mutilated or defaced or be destroyed, lost or stolen, the Issuer may instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated or defaced Security), if the applicant for such payment shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as any of them may require to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Issuer and the Trustee and any agent of the Issuer or the Trustee evidence to their satisfaction of the destruction, loss or theft of such Security and of the ownership thereof.

Every substitute Security of any series issued pursuant to the provisions of this Section by virtue of the fact that any Security is destroyed, lost or stolen shall constitute an additional contractual obligation of the Issuer, whether or not the destroyed, lost or stolen Security shall be at any time enforceable by anyone and shall be entitled to all the benefits of (but shall be subject to all the limitations of rights set forth in) this Indenture equally and proportionately with any and all other Securities of such series duly authenticated and delivered hereunder. All Securities shall be held and owned upon the express condition that, to the extent permitted by law, the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, defaced or destroyed, lost or stolen Securities and shall preclude any and all other rights or remedies with respect to the replacement or payment of negotiable instruments or other securities without their surrender.

Section 2.10 Cancellation Of Securities. All Securities surrendered for payment, redemption, registration of transfer or exchange, if surrendered to the Issuer or any agent of the Issuer or the Trustee, shall be delivered to the Trustee for prompt cancellation or, if surrendered to the Trustee, shall be promptly canceled by it. The Issuer may at any time deliver to the Trustee for cancellation any Securities previously authenticated and delivered hereunder that the Issuer may have acquired in any manner whatsoever, and all Securities so delivered shall be promptly canceled by the Trustee. No Securities shall be issued in lieu of or in exchange for any Securities canceled as provided in this Section, except as expressly permitted by this Indenture. The Trustee shall cancel Securities held by it in accordance with its then customary procedures and deliver a certificate of cancellation to the Issuer upon written request of the Issuer. If the Issuer shall acquire any of the Securities, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

Section 2.11 Temporary Securities. Pending the preparation of definitive Securities of any series, the Issuer may execute and the Trustee shall authenticate and deliver temporary Securities of such series. Temporary Securities of any series shall be issuable as registered Securities without coupons, printed, typewritten, photocopied or otherwise reproduced, in any authorized denomination, and substantially in the form of the definitive Securities of such series but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as the Officer executing such Securities may determine, as conclusively evidenced by his or her execution of such Securities. Temporary Securities may contain such reference to any provisions of this Indenture as may be appropriate. Every temporary Security shall be executed by an Officer of the Issuer and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities. Without unreasonable delay the Issuer shall execute and shall furnish definitive Securities of such series, unless the Securities of a series are to be issued as Global Securities pursuant to Section 2.14, and thereupon temporary Securities of such series may be surrendered in exchange therefor without charge at each office or agency to be maintained by the Issuer for that purpose pursuant to Section 3.2, and the Trustee shall authenticate and deliver in exchange for such temporary Securities of such series a like aggregate principal amount of definitive Securities of the same series of authorized denominations. Until so exchanged, the temporary Securities of any series shall be entitled to the same benefits under this Indenture as definitive Securities of such series.

Section 2.12 Computation Of Interest. Except as otherwise contemplated by Section 2.3 for Securities of any series, interest on the Securities of each series shall be computed on the basis of a 360-day year of twelve 30-day months.

Section 2.13 Payment In Currencies.

(a) Payment of the principal of (and premium, if any) and interest on the Securities of any series shall be made in Dollars, unless otherwise specified pursuant to Section 2.3(12).

(b) In the case of Securities of a series denominated in Foreign Currencies, the Holder of a Security of such series may elect to receive such payment in Dollars if authorized pursuant to Section 2.3(13).

A Holder may make such election by delivering to the Trustee a written notice thereof, substantially in the form set forth in Section 2.13(g), or in such other form as may be acceptable to the Trustee, not later than the close of business on the record date immediately preceding the applicable payment date. Such election shall remain in effect with respect to such Holder until such Holder delivers to the Trustee a written notice rescinding such election, provided that any such notice must be delivered to the Trustee not later than the close of business on the record date immediately preceding the next interest payment date or the fifteenth day preceding the maturity of an installment of principal, as the case may be, in order to be effective for the payment to be made thereon; and provided further that no such rescission may be made with respect to payments to be made on any Security with respect to which notice of redemption has been given by the Issuer pursuant to Article Twelve. Upon request, the Trustee will send a copy of the form of notice as set forth in Section 2.13(g) to any Holder requesting a copy thereof to the address of such Holder set forth in such request

(c) If at least one Holder has made the election referred to in subsection (a) above to receive payments in Dollars on a series of Securities denominated in one or more Foreign Currencies, then the Trustee shall deliver to the Issuer, not later than the fourth business day after the record date with respect to an interest payment date or the 10th day immediately preceding the maturity of an installment of principal, as the case may be, a written notice specifying the amount of principal of (and premium, if any) and interest on such series of Securities to be paid in Dollars on such payment date.

(d) Except as otherwise specified as contemplated by Section 2.3, if at least one Holder has made the election referred to in subsection (a) above to receive payments in Dollars on a series of Securities denominated in one or more Foreign Currencies, then the amount receivable by Holders of a series of Securities who have elected payment in Dollars shall be determined by the Issuer on the basis of the applicable Exchange Rate set forth in the applicable Exchange Rate Officer's Certificate. The Issuer shall deliver, not later than the eighth day following each record date or the sixth day immediately preceding the maturity of an installment of principal, as the case may be, to the Trustee an Exchange Rate Officer's Certificate in respect of the payments to be made to such Holders on such payment date.

(e) If the Foreign Currency in which a series of Securities is denominated is not available to the Issuer for making payment thereof due to the imposition of exchange controls or other circumstances beyond the control of the Issuer, then with respect to each date for the payment of principal of (and premium, if any) and interest on such series of Securities occurring after the final date on which the Foreign Currency was so used, all payments with respect to the Securities of any such series shall be made in Dollars. If payment is to be made in Dollars to the Holders of any such series of Securities pursuant to the provisions of the preceding sentence, then the amount to be paid in Dollars on a payment date by the Issuer to the Trustee and by the Trustee or any paying agent to Holders shall be determined by an Exchange Rate Agent and shall be equal to the sum obtained by converting the specified Foreign Currency into Dollars at the Exchange Rate on the second business day preceding such interest payment date or the second business day preceding the maturity of an installment of principal, as the case may be, or if no rate is quoted for such Foreign Currency, the last date such rate is quoted.

(f) All decisions and determinations of an Exchange Rate Agent regarding the Exchange Rate or conversion of Foreign Currency into Dollars pursuant to subsection (d) above shall, in the absence of manifest error, be conclusive for all purposes and irrevocably binding upon the Issuer, the Trustee, any paying agent and all Holders of the Securities. If a Foreign Currency in which payment of a series of Securities may be made, pursuant to subsection (a) above, is not available to the Issuer for making payments thereof due to the imposition of exchange controls or other circumstances beyond the control of the Issuer, the Issuer, after learning thereof, will give written notice thereof to the Trustee promptly (and the Trustee promptly thereafter will give notice to the Holders in the manner provided in Section 11.4) specifying the last date on which the Foreign Currency was used for the payment of principal of (and premium, if any) or interest on such series of Securities.

(g) Form of election to receive payments in Dollars or to rescind such election:

The undersigned, registered owner of certificate number (the "Certificate"), representing [ *name of series of Securities* ] (the "Securities") in an aggregate principal amount of, hereby:

(a) elects to receive all payments in respect of the Securities in Dollars. Subject to the terms and conditions set forth in the Indenture under which the Securities were issued, this election shall take effect on the next record date after this election form is received by the Trustee and shall remain in effect until it is rescinded by the undersigned or until the Certificate is transferred or paid in full at maturity; or

(b) rescinds the election previously submitted by the undersigned to receive all payments in respect of the Securities in Dollars represented by the Certificate. Subject to the terms and conditions set forth in the Indenture, this rescission shall take effect on the next record date after this election form is received by the Trustee.

The undersigned acknowledges that, except as provided in the Indenture, any costs incurred by or on behalf of the Company in connection with the conversion of Foreign Currency into Dollars shall be borne by the undersigned through deduction from payments required to be made to the undersigned pursuant to the terms of the Indenture.

All capitalized terms used herein, unless otherwise defined herein, shall have the meanings assigned to them in the Indenture.

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(Name of Owner)

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(Signature of Owner)

Section 2.14 Securities Issuable In The Form Of A Global Security.

(a) If the Issuer shall establish pursuant to Sections 2.1 and 2.3 that the Securities of a particular series are to be issued in whole or in part in the form of one or more Global Securities, then the Issuer shall execute and the Trustee shall authenticate and deliver, such Global Security or Global Securities, which (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, the outstanding Securities of such series to be represented by such Global Security or Global Securities, (ii) shall be registered in the name of the Depository for such Global Security or Global Securities or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction and (iv) shall bear a legend substantially to the following effect:

“THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.”

The aggregate principal amount of each Global Security may from time to time be increased or decreased by adjustments made on the records of the custodian with respect to any Global Security appointed by the Depository, or any successor person thereto, and who shall initially be the Trustee.

(b) Notwithstanding any other provision of this Section 2.14 or of Section 2.8, subject to the provisions of paragraph (c) below, unless the terms of a Global Security expressly permit such Global Security to be exchanged in whole or in part for individual Securities, a Global Security may be transferred, in whole but not in part and in the manner provided in Section 2.8, only to a nominee of the Depositary for such Global Security, or to the Depositary, or to a successor Depositary for such Global Security selected or approved by the Issuer, or to a nominee of such successor Depositary.

(c) (i) If at any time the Depositary for a Global Security notifies the Issuer that it is unwilling or unable to continue as Depositary for such Global Security or if at any time the Depositary for the Securities of such series or part thereof shall no longer be eligible or in good standing under the Securities Exchange Act of 1934, as amended, or other applicable statute or regulation, the Issuer shall appoint a successor Depositary with respect to such Global Security. If a successor Depositary for such Global Security is not appointed by the Issuer within 90 days after the Issuer receives such notice or becomes aware of such ineligibility or lack of good standing, the Issuer will execute, and the Trustee, upon receipt of a Company Order for the authentication and delivery of individual Securities of such series in exchange for such Global Security, will authenticate and deliver individual Securities of such series of like tenor and terms in definitive form in an aggregate principal amount equal to the principal amount of the Global Security in exchange for such Global Security.

(ii) The Issuer may at any time and in its sole discretion determine that the Securities of any series issued or issuable in the form of one or more Global Securities shall no longer be represented by such Global Security or Securities. In such event the Issuer will execute, and the Trustee, upon receipt of a Company Order for the authentication and delivery of individual Securities of such series in exchange in whole or in part for such Global Security will authenticate and deliver individual Securities of such series of like tenor and terms in definitive form in an aggregate principal amount equal to the principal amount of such Global Security or Securities representing such series in exchange for such Global Security or Securities.

(iii) If specified by the Issuer pursuant to Sections 2.1 and 2.3 with respect to Securities issued or issuable in the form of a Global Security, the Depositary for such Global Security may surrender such Global Security in exchange in whole or in part for individual Securities of such series of like tenor and terms in definitive form on such terms as are acceptable to the Issuer and such Depositary. Thereupon the Issuer shall execute, and the Trustee, upon receipt of a Company Order, shall authenticate and deliver, without service charge, (1) to each person specified by such Depositary a new Security or Securities of the same series of like tenor and terms and of any authorized denomination as requested by such person in aggregate principal amount equal to and in exchange for such person's beneficial interest in the Global Security; and (2) to such Depositary a new Global Security of like tenor and terms and in an authorized denomination equal to the difference, if any, between the principal amount of the surrendered Global Security and the aggregate principal amount of Securities delivered to beneficial Holders thereof.

(iv) In any exchange provided for in any of the preceding three subparagraphs of this paragraph (c), the Issuer will execute and the Trustee will authenticate and deliver individual Securities in definitive registered form in authorized denominations. Upon the exchange in full of a Global Security for individual Securities, such Global Security shall be canceled by the Trustee. Securities issued in exchange for a Global Security pursuant to this Section shall be registered in such names and in such authorized denominations as the Depository for such Global Security, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. The Trustee shall deliver such Securities at its Corporate Trust Office to the persons in whose names such Securities are so registered.

(d) No members of, or participants in, the Depository (“Members”) shall have any rights under this Indenture with respect to such Global Security, and such Depository may be treated by the Issuer, the Trustee and any agent of the Issuer or the Trustee as the absolute owner or Holder of such Global Security for all purposes whatsoever. Neither the Issuer nor the Trustee will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in any Global Security or any other Security issued in global form or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

(e) The Trustee shall have no obligation or duty to monitor, determine or inquire as to compliance with any restrictions on transfer imposed under this Indenture or under applicable law with respect to any transfer of any interest in any Security (including any transfers between or among Depository Members or beneficial owners of interests in any Global Security) other than to require delivery of such certificates and other documentation or evidence as are expressly required by, and to do so if and when expressly required by the terms of, this Indenture, and to examine the same to determine substantial compliance as to form with the express requirements hereof.

Section 2.15 CUSIP Numbers. The Issuer in issuing any Securities may use CUSIP, ISIN or other similar numbers, if then generally in use, and thereafter with respect to such series, the Trustee may use such numbers in any notice of redemption or exchange with respect to such series provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers.

### **ARTICLE THREE**

#### **COVENANTS OF THE ISSUER**

The Issuer hereby covenants and agrees as follows:

Section 3.1 Payment of Principal and Interest. The Issuer will duly and punctually pay or cause to be paid the principal of, premium, if any, and interest on, each of the Securities at the place or places, at the respective times and in the manner provided in the Securities. Such payments shall be considered made on the date due if on such date the Trustee or the paying agent holds, in accordance with this Indenture, money sufficient to make all payments with respect to such Securities then due.

Section 3.2 Offices for Payments, etc. So long as any of the Securities of any series remain outstanding, the Issuer will maintain the following for such series (which may be an office of the Trustee or the Registrar or a co-registrar): (a) an office or agency where the Securities may be presented for payment, (b) an office or agency where the Securities may be presented for registration of transfer and for exchange as in this Indenture provided and (c) an office or agency where notices and demands to or upon the Issuer in respect of the Securities or of this Indenture may be served. The Issuer will give to the Trustee written notice of the location of any such office or agency and of any change of location thereof. In case the Issuer shall fail to maintain any such office or agency or shall fail to give such notice of the location or of any change in the location thereof, presentations and demands may be made and notices may be served at the Corporate Trust Office, and the Issuer hereby appoints the Trustee as its agent to receive at the Corporate Trust Office all such presentations, demands and notices.

Unless otherwise provided in or pursuant to this Indenture (including, without limitation, pursuant to Section 2.3 with respect to the Securities of any series), the Issuer hereby designates the place where the Trustee shall from time to time maintain its Corporate Trust Office as the Issuer's office or agency for such purpose.

The Issuer may also from time to time designate one or more other offices or agencies where the Securities may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided that no such designation or rescission shall in any manner relieve the Issuer of its obligation to maintain an office or agency, for such purposes. The Issuer shall give written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

Section 3.3 Appointment to Fill a Vacancy in Office of Trustee. The Issuer, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 6.10, a Trustee, so that there shall at all times be a Trustee with respect to each series of Securities hereunder.

Section 3.4 Paying Agents. Whenever the Issuer shall appoint a paying agent other than the Trustee with respect to the Securities of any series, it will cause such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section,

(a) that it will hold all sums received by it as such agent for the payment of the principal of, premium, if any, or interest on the Securities of such series (whether such sums have been paid to it by the Issuer or by any other obligor on the Securities of such series) in trust for the benefit of the Holders of the Securities of such series or of the Trustee until such sums shall be paid to such Holders or otherwise disposed of as provided in or pursuant to this Indenture,



(b) that it will give the Trustee notice of any default by the Issuer (or by any other obligor on the Securities of such series) to make any payment of the principal of, premium, if any, or interest on the Securities of such series when the same shall be due and payable; and

(c) at any time during the continuance of any such default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent.

The Issuer will, on or prior to each due date of the principal of, premium, if any, or interest on the Securities of such series, deposit with the paying agent a sum sufficient to pay such principal, premium or interest so becoming due, such sum to be held in trust for the benefit of the Holders of the Securities of such series entitled thereto until such sums shall be paid to such Holders or otherwise disposed of as provided in or pursuant to this Indenture, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee, in writing, of any failure to take such action.

If the Issuer shall act as its own paying agent, it will, on or before each due date of the principal of, premium, if any, or interest on the Securities of any series, set aside, segregate and hold in trust for the benefit of the Holders of the Securities of such series a sum sufficient to pay such principal, premium or interest so becoming due until such sums shall be paid to such Holders or otherwise disposed of as provided in or pursuant to this Indenture. The Issuer will promptly notify the Trustee, in writing, of any failure to take such action.

Anything in this Section to the contrary notwithstanding, the Issuer may at any time, for the purpose of obtaining a satisfaction and discharge of this Indenture with respect to one or more or all series of Securities hereunder, or for any other reason, pay or cause to be paid to the Trustee all sums held in trust for any such series by the Issuer or any paying agent hereunder, as required by this Section, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Issuer or such paying agent. Upon such payment by any paying agent to the Trustee, such paying agent shall be released from all further liability with respect to such money.

Any money deposited with the Trustee or any paying agent, or then held by the Issuer, in trust for the payment of the principal of and premium, if any, or interest on any Security of any series and remaining unclaimed for two years after such principal and premium, if any, or interest has become due and payable shall be paid to the Issuer upon Company Order, or (if then held by the Issuer) shall be discharged from such trust, and the Holder of such Security shall thereafter, as an unsecured general creditor, look only to the Issuer for payment of such amounts without interest thereon, and all liability of the Trustee or such paying agent with respect to such trust money, and all liability of the Issuer as trustee thereof, shall thereupon cease.

Anything in this Section to the contrary notwithstanding, the agreement to hold sums in trust as provided in this Section is subject to the provisions of Sections 10.3 and 10.4.

Section 3.5 Compliance Certificate. The Issuer will deliver to the Trustee on or before May 15 in each year (beginning with 2021 or, if later, the first year during which Securities are issued under this Indenture) a brief written statement (which need not comply with Section 11.5) from an Officer as to whether or not to the knowledge of the Officer the Issuer is in default in the performance and observance of the terms, provisions, covenants and conditions of this Indenture (without regard to any period of grace or requirements of notice provided hereunder) and if the Issuer shall be in default, specifying each such default and the nature and status thereof of which such Officer may have knowledge.

Section 3.6 Limitations on Liens. Except to the extent provided in Section 3.8, the Company will not create or assume, and will not permit any Restricted Subsidiary to create or assume, any mortgage, security interest, pledge or lien (collectively in this Article Three referred to as “lien”) of or upon any Principal Property or shares of capital stock or indebtedness of any Restricted Subsidiary, whether owned at the date of this Indenture or thereafter acquired, in each case securing any new Debt incurred or guaranteed by the Company or any Restricted Subsidiary, without making effective provision, and the Company in such case will make or cause to be made effective provision, whereby the outstanding Securities shall be secured by such lien equally and ratably with any and all other Debt thereby secured, so long as such other Debt shall be so secured; provided that the foregoing shall not apply to any of the following:

(1) liens on any Principal Property (including any underlying real estate) acquired, repaired, constructed or improved by the Company or any Restricted Subsidiary which are created or assumed prior to, contemporaneously with, or within 180 days after (or in the case of any such Principal Property which is being financed on the basis of long-term contracts or similar financing arrangements for which a firm commitment is made by one or more banks, insurance companies or other lenders or investors (not including the Company or any Restricted Subsidiary), then within 360 days after), the completion of such acquisition, repair, construction or improvement of such Principal Property to secure or provide for the payment of any part of the purchase price and other acquisition costs of such property or the cost of such repair, construction or improvement, or liens on any Principal Property at the time of acquisition thereof (including by means of a merger or consolidation);

(2) liens on property or shares of capital stock or indebtedness of a person existing at the time such person is merged into or consolidated with the Issuer or a Restricted Subsidiary or at the time of a sale, lease or other disposition of the properties of a person as an entirety or substantially as an entirety to the Issuer or a Restricted Subsidiary;

(3) liens existing on the date of this Indenture or liens on property or shares of capital stock or indebtedness of a person existing at the time such person becomes a Restricted Subsidiary;

(4) liens in favor of the Company or any Restricted Subsidiary or liens to secure Debt of a Restricted Subsidiary to the Company or to another Restricted Subsidiary, but only so long as such indebtedness is held by the Company or a Restricted Subsidiary;

(5) liens in favor of the United States of America or any State or territory thereof (including the District of Columbia) or any foreign jurisdiction, or any department, agency or political subdivision of the United States of America or any State or territory thereof (including the District of Columbia) or any foreign jurisdiction, to secure partial, progress, advance or other payments pursuant to any contract, statute or regulation, including, without limitation, liens to secure indebtedness of the pollution control or industrial revenue bond type, or to secure any indebtedness incurred for the purpose of financing all or any part of the purchase price and other acquisition costs or the cost of constructing or improving the property subject to such liens;

(6) liens in favor of any customer arising in respect of partial, progress, advance or other payments made by or on behalf of such customer for goods produced for or services rendered to such customer in the ordinary course of business not exceeding the amount of such payments;

(7) liens for the sole purpose of extending, renewing or replacing (including successive extensions, renewals or replacements), in whole or in part, any lien referred to in the foregoing clauses (1) to (6), inclusive, or in this clause (7), including any lien created prior to and existing on the date of this Indenture, provided that the principal amount of Debt secured thereby shall not exceed the principal amount of Debt so secured at the time of such extension, renewal or replacement (plus an amount in respect of fees, costs and expenses, including premiums and accrued and unpaid interest in relation to any refinancing, refunding, extension, renewal or replacement of such Debt), and that such extension, renewal or replacement shall be limited to all or a part of the property subject to the lien so extended, renewed or replaced (plus improvements on such property);

(8) mechanics', workmen's, repairmen's, materialmen's, carriers' or other similar liens arising in the ordinary course of business;

(9) liens created by or resulting from any litigation or proceedings which are being contested in good faith; liens arising out of judgments or awards against the Company or any Restricted Subsidiary with respect to which the Company or such Restricted Subsidiary is in good faith prosecuting an appeal or proceedings for review; or liens incurred by the Company or any Restricted Subsidiary for the purpose of obtaining a stay or discharge in the course of any legal proceeding to which the Company or such Restricted Subsidiary is a party;

(10) liens for taxes or assessments or governmental charges or levies not yet due or delinquent, or which can thereafter be paid without penalty, or which are being contested in good faith by appropriate proceedings; landlord's liens on property held under lease, and tenants' rights under leases; minor survey exceptions, easements, rights-of-way and other restrictions on the use of properties; liens in favor of performance, appeal, surety or similar bonds; and any other liens of a nature similar to those hereinabove described in this clause (10) which do not, in the opinion of the Company, materially impair the use of such property in the operation of the business of the Company or a Restricted Subsidiary or the value of such property; and

(11) liens in respect of Sale and Lease-Back Transactions permitted under Section 3.7.

Any lien created for the benefit of the Holders of the Securities of any series pursuant to this Section 3.6 shall be deemed automatically and unconditionally released and discharged upon the release and discharge of the applicable lien described in the first paragraph of this Section 3.6 without any further action on the part of the Holders or the Issuer or Restricted Subsidiaries.

Section 3.7 Limitation on Sale and Lease-Back. Except to the extent provided in Section 3.8, the Company will not, nor will it permit any Restricted Subsidiary to, enter into any arrangement with any person providing for the leasing by the Company or any Restricted Subsidiary of any Principal Property (except for temporary leases for a term, including any renewal thereof, of not more than three years (or which may be terminated by the Issuer or the applicable Restricted Subsidiary within a period of not more than three years) and except for leases between the Company and a Restricted Subsidiary or between Restricted Subsidiaries and Sale and Lease-Back Transactions that were entered into prior to the date of this Indenture), which property has been owned and operated by the Issuer or any Restricted Subsidiary for more than 120 days and has been or is to be sold or transferred by the Company or such Restricted Subsidiary to such person (in this Article Three referred to as a “Sale and Lease-Back Transaction”) unless either (a) the Issuer or such Restricted Subsidiary would be entitled to incur Debt secured by a lien on such property in a principal amount at least equal to the Attributable Debt of such Sale and Lease-Back Transaction without equally and ratably securing the Securities pursuant to the provisions of Section 3.6, or (b) the Company or the applicable Restricted Subsidiary shall apply an amount equal to the Attributable Debt of such Sale and Lease-Back Transaction to (i) the acquisition of additional Principal Property of equal or greater fair market value (as determined in good faith by the Company or such Restricted Subsidiary), or (ii) the retirement of indebtedness for borrowed money (excluding indebtedness under a revolving loan facility, unless the commitment is reduced by the amount of such payment), including the Securities, incurred or assumed by the Company or any Restricted Subsidiary (other than indebtedness for borrowed money (excluding indebtedness under a revolving loan facility, unless the commitment is reduced by the receipt of such payment), owed to the Company or any Restricted Subsidiary) which by its terms matures on, or is extendable or renewable at the option of the obligor to, a date more than twelve months after the date of the creation of such indebtedness; provided, however, that the amount to be applied to the retirement of indebtedness pursuant to clause (ii) shall be reduced by (A) the aggregate principal amount of any Securities delivered to the Trustee for retirement within 180 days of the effective date of such Sale and Lease-Back Transaction and (B) the aggregate principal amount of such indebtedness (other than the Securities) retired by the Company or a Restricted Subsidiary within 180 days of the effective date of such Sale and Lease-Back Transaction.

Section 3.8 Exemption from Limitation on Liens and Sale and Lease-Back. Notwithstanding the provisions of Sections 3.6 and 3.7, the Company and its Restricted Subsidiaries may nevertheless create or assume liens and enter into Sale and Lease-Back Transactions, which would otherwise require securing of the Securities, the acquisition of another Principal Property or the retirement of indebtedness for borrowed money under said provisions, provided that the aggregate amount of all such liens and Sale and Lease-Back Transactions permitted by this Section 3.8 at any time outstanding (as measured by the aggregate

principal amount of all Debt secured by all such liens then outstanding or to be so created or assumed (other than Debt secured by such liens referred to clauses (1) to (11) of Section 3.6) and the Attributable Debt of all such Sale and Lease-Back Transactions then outstanding or to be so entered into (other than Sale and Lease-Back Transactions permitted under Section 3.7)) shall not exceed 15% of Consolidated Net Tangible Assets, as determined in accordance with the most recently available consolidated balance sheet of the Company.

Section 3.9 Conditional Waiver by Holders of Securities. Anything in this Indenture to the contrary notwithstanding, the Issuer may fail or omit in any particular instance to comply with a covenant or condition set forth in this Indenture or, if expressly provided pursuant to Section 2.3 with respect to any series of Securities, any additional covenants or conditions applicable to such series, if the Issuer shall have obtained and filed with the Trustee, prior to the time of such failure or omission, evidence (as provided in Article Seven) of the consent of the Holders of a majority in aggregate principal amount of the Securities of such series at the time outstanding (except as to a covenant or condition which under Section 8.2 cannot be modified or amended without the consent of the Holder of each outstanding Security of such series affected, in which case the consent of the Holder of each outstanding Security of such series affected shall be required), either waiving such compliance in such instance or generally waiving compliance with such covenant or condition, but no such waiver shall extend to or affect such covenant or condition except to the extent so expressly waived, or impair any right consequent thereon and, until such waiver shall have become effective, the obligations of the Issuer and the duties of the Trustee in respect of any such covenant or condition shall remain in full force and effect.

#### ARTICLE FOUR

##### **SECURITYHOLDERS' LISTS AND REPORTS BY THE ISSUER AND THE TRUSTEE**

Section 4.1 Issuer to Furnish Trustee Information as to Names and Addresses of Securityholders. The Issuer covenants and agrees that it will furnish or cause to be furnished to the Trustee a list in such form as the Trustee may reasonably require of the names and addresses of the Holders of the Securities of each series:

(a) semi-annually not more than 15 days after each record date for the payment of semi-annual interest on such Securities, as hereinabove specified, as of such record date and semi-annually on dates to be determined pursuant to Section 2.3 for non-interest bearing securities in each year, and

(b) at such other times as the Trustee may request in writing, within 30 days after receipt by the Issuer of any such request as of a date not more than 15 days prior to the time such information is furnished,

provided that if and so long as the Trustee shall be the Security registrar for such series, such list shall not be required to be furnished.

Section 4.2 Preservation and Disclosure of Securityholders Lists. (a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the Holders of each series of Securities contained in the most recent list furnished to it as provided in Section 4.1 or maintained by the Trustee in its capacity as Registrar, if so acting. The Trustee may destroy any list furnished to it as provided in Section 4.1 upon receipt of a new list so furnished.

(b) In case three or more Holders of Securities (hereinafter referred to as “applicants”) apply in writing to the Trustee and furnish to the Trustee reasonable proof that each such applicant has owned a Security for a period of at least six months preceding the date of such application, and such application states that the applicants desire to communicate with other Holders of Securities of a particular series (in which case the applicants must all hold Securities of such series) or with Holders of all Securities with respect to their rights under this Indenture or under such Securities and it is accompanied by a copy of the form of proxy or other communication which such applicants propose to transmit, then the Trustee shall, within five business days after the receipt of such application, at its election, either:

(i) afford to such applicants access to the information preserved at the time by the Trustee in accordance with the provisions of subsection (a) of this Section, or

(ii) inform such applicants as to the approximate number of Holders of Securities of such series or all Securities, as the case may be, whose names and addresses appear in the information preserved at the time by the Trustee, in accordance with the provisions of subsection (a) of this Section, and as to the approximate cost of mailing to such Securityholders the form of proxy or other communication, if any, specified in such application.

If the Trustee shall elect not to afford to such applicants access to such information, the Trustee shall, upon the written request of such applicants, deliver to each Securityholder of such series or all Securities, as the case may be, whose name and address appears in the information preserved at the time by the Trustee in accordance with the provisions of subsection (a) of this Section a copy of the form of proxy or other communication which is specified in such request, with reasonable promptness after a tender to the Trustee of the material to be delivered and of payment, or provision for the payment, of the reasonable expenses of the Trustee, unless within five days after such tender, the Trustee shall deliver to such applicants and file with the Commission together with a copy of the material to be delivered, a written statement to the effect that, in the opinion of the Trustee, such transmission would be contrary to the best interests of the Holders of Securities of such series or all Securities, as the case may be, or would be in violation of applicable law. Such written statement shall specify the basis of such opinion. If the Commission, after opportunity for a hearing upon the objections specified in the written statement so filed, shall enter an order refusing to sustain any of such objections or if, after the entry of an order sustaining one or more of such objections, the Commission shall find, after notice and opportunity for hearing, that all the objections so sustained have been met, and shall enter an order so declaring, the Trustee shall deliver copies of such material to all such Securityholders with reasonable promptness after the entry of such order and the renewal of such tender; otherwise the Trustee shall be relieved of any obligation or duty to such applicants respecting their application.

(c) Each and every Holder of Securities, by receiving and holding the same, agrees with the Issuer and the Trustee that neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be held accountable by reason of the disclosure of any such information as to the names and addresses of the Holders of Securities in accordance with the provisions of subsection (b) of this Section, regardless of the source from which such information was derived, and that the Trustee shall not be held accountable by reason of mailing any material pursuant to a request made under said subsection (b).

Section 4.3 Reports by the Issuer. The Issuer covenants:

(a) unless available on EDGAR, to file with the Trustee, within 30 days after the Issuer is required to file the same with the Commission, copies of the annual reports and of the information, documents, and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) which the Issuer may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended, or if the Issuer is not required to file information, documents, or reports pursuant to either of such Sections, then to file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents, and reports which may be required pursuant to Section 13 of the Securities Exchange Act of 1934 as amended in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations;

(b) to file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such additional information, documents, and reports with respect to compliance by the Issuer with the conditions and covenants provided for in this Indenture as may be required from time to time by such rules and regulations; and

(c) to transmit to the Holders of Securities, within 30 days after the filing thereof with the Trustee such summaries of any information, documents and reports required to be filed by the Issuer pursuant to subsections (a) and (b) of this Section as may be required by rules and regulations prescribed from time to time by the Commission.

Delivery of such reports, information and documents in this Section 4.3 to the Trustee (including via EDGAR) is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officer's Certificates).

Section 4.4 Reports by the Trustee. The Trustee shall transmit to the Securityholders such reports concerning the Trustee and its actions under this Indenture as may be required pursuant to the Trust Indenture Act of 1939, at the times and in the manner provided pursuant thereto. Reports so required to be transmitted at stated intervals of not more than 12 months shall be transmitted no later than August 15 in each calendar year, commencing in 2021.

A copy of each such report shall, at the time of such transmission to Securityholders, be furnished to the Issuer and be filed by the Trustee with each stock exchange upon which the Securities of any applicable series are listed and also with the Commission. The Issuer agrees to notify the Trustee with respect to any series when and as the Securities of such series become admitted to trading on any national securities exchange.

## ARTICLE FIVE

### **REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT**

Section 5.1 Event of Default Defined; Acceleration of Maturity; Waiver of Default. Except where otherwise indicated by the context or where the term is otherwise defined for a specific purpose, the term “Event of Default” whenever used herein with respect to Securities of any series means any one of the following events unless it is either inapplicable to a particular series or it is specifically deleted or modified in the manner contemplated in Section 2.3:

(a) the failure by the Issuer in the payment of any installment of interest upon any of the Securities of such series as and when the same shall become due and payable, which failure shall have continued unremedied for a period of 30 days; or

(b) the failure by the Issuer in the payment of all or any part of the principal of, and premium, if any, on any of the Securities of such series as and when the same shall become due and payable either at maturity as therein expressed, upon redemption (other than pursuant to a sinking fund), upon acceleration under this Indenture or otherwise; or

(c) the failure by the Issuer in the payment of any sinking fund installment, if any, as and when the same shall become due and payable by the terms of a Security of that series, which failure shall have continued unremedied for a period of 30 days; or

(d) the failure by the Issuer, subject to the provisions of Section 3.9, to perform any other of the covenants or agreements on the part of the Issuer in this Indenture (other than those set forth exclusively in the terms of a different series of Securities established as contemplated in this Indenture and other than a covenant or condition a default in the performance of which is specifically addressed elsewhere in this Section 5.1) continued for a period of 90 days after the date on which written notice specifying such failure, stating that such notice is a “Notice of Default” hereunder and demanding that the Issuer remedy the same, shall have been given by registered or certified mail, return receipt requested, to the Issuer by the Trustee, or given to the Issuer and the Trustee by the Holders of at least 25% in aggregate principal amount of the Securities at the time outstanding; or



(e) a court having jurisdiction in the premises shall enter a decree or order for relief in respect of the Issuer in an involuntary case under any applicable federal or state bankruptcy, insolvency or other similar law now or hereafter in effect, or appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Issuer or for substantially all of the property of the Issuer or ordering the winding up or liquidation of its affairs, and such decree or order shall remain unstayed and in effect for a period of 90 consecutive days; or

(f) the Issuer shall commence a voluntary case under any applicable federal or state bankruptcy, insolvency or other similar law now or hereafter in effect, or consent by the Issuer to the entry of an order for relief in an involuntary case under any such law, or consent by the Issuer to the appointment or taking possession by a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Issuer or for substantially all of its property, or make any general assignment for the benefit of creditors; or

(g) the occurrence of any other Event of Default with respect to Securities of such series established as provided in Section 2.3.

If an Event of Default described in clause (a), (b), (c), (d) or (g) at the time outstanding occurs and is continuing, then, and in each and every such case, unless the principal of all of the Securities of such series shall have already become due and payable, either the Trustee or the Holders of not less than 25% in aggregate principal amount of the Securities of such series then outstanding hereunder, by notice in writing to the Issuer (and to the Trustee if given by Holders), may declare the entire principal (or, if the Securities of such series are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of such series) of all Securities of such series then outstanding and the interest accrued thereon, if any, to be due and payable immediately, and upon any such declaration the same shall become immediately due and payable. If an Event of Default described in clause (e) or (f) occurs and is continuing, then and in each and every such case, unless the principal of all the Securities shall have already become due and payable, the entire principal (or, if any Securities are Original Issue Discount Securities, such portion of the principal as may be specified in the terms thereof) of all the Securities then outstanding and interest accrued thereon, if any, shall automatically, and without any acceleration or any other action on the part of the trustee or any Holder, become immediately due and payable.

The foregoing provisions, however, are subject to the condition that if, at any time after the principal (or, if the Securities are Original Issue Discount Securities, such portion of the principal as may be specified in the terms thereof) of the Securities of any series (or of all the Securities, as the case may be) shall have been so declared due and payable, and before any judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the Issuer shall pay or shall deposit with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of such series (or of all the Securities, as the case may be) and the principal of, and any accrued and unpaid premium, if any, any and all Securities of such series (or of all the Securities, as the case may be) which shall have become due otherwise than by acceleration (with interest, to the extent that payment of such interest is legally enforceable under applicable law, upon such principal, accrued and unpaid premium and

overdue installments of interest, at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series (or at the respective rates of interest or Yields to Maturity of all the Securities, as the case may be) to the date of such payment or deposit) and such amount as shall be sufficient to cover reasonable compensation to the Trustee and each predecessor Trustee, their respective agents, attorneys and counsel, and all other expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of negligence or bad faith (as determined by a court of competent jurisdiction in a final, non-appealable order), and if any and all Events of Default under the Indenture, other than the non-payment of the principal of Securities which shall have become due by acceleration, shall have been cured, waived or otherwise remedied as provided herein—then and in every such case the Holders of a majority in aggregate principal amount of the Securities of such series (or of all the Securities, as the case may be) then outstanding, by written notice to the Issuer and to the Trustee, may waive all defaults with respect to such series (or with respect to all Securities, as the case may be—in such case, treated as a single class) and rescind and annul such declaration and its consequences, but no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or shall impair any right consequent thereon.

For all purposes under this Indenture, if a portion of the principal of any Original Issue Discount Securities shall have been accelerated and declared due and payable pursuant to the provisions hereof, then, from and after such acceleration, unless such acceleration has been rescinded and annulled, the principal amount of such Original Issue Discount Securities shall be deemed to be such portion of the principal thereof as shall be due and payable as a result of such acceleration, and payment of such portion of the principal thereof as shall be due and payable as a result of such acceleration, together with interest, if any, thereon and all other amounts owing thereunder, shall constitute payment in full of such Original Issue Discount Securities.

Section 5.2 Collection of Indebtedness by Trustee; Trustee May Prove Debt. The Issuer covenants that (a) in case default shall be made in the payment of any installment of interest on any of the Securities of any series when such interest shall have become due and payable, and such default shall have continued for a period of 30 days or (b) in case default shall be made in the payment of all or any part of the principal of, and premium, if any, on any of the Securities of any series when the same shall have become due and payable, whether upon maturity of the Securities for such series or upon any redemption or by acceleration as authorized by this Indenture or otherwise, then upon demand of the Trustee, the Issuer will pay to the Trustee or the paying agent for the benefit of the Holders of the Securities of such series the whole amount that then shall have become due and payable on all Securities of such series for principal, premium, if any, and accrued and unpaid interest, as the case may be (with interest, to the extent that payment of such interest is enforceable under applicable law, to the date of such payment upon the overdue principal, and on the overdue premium, if any, and on overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series); and in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including reasonable compensation to the Trustee and each predecessor Trustee, their respective agents, attorneys and counsel, and any expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of its negligence or bad faith (as determined by a court of competent jurisdiction in a final, non-appealable order).

Until such demand is made by the Trustee, the Issuer may pay the principal of, premium, if any, and interest on the Securities of any series to the registered Holders, whether or not the Securities of such series be overdue.

In case the Issuer shall fail forthwith to pay such amounts upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceedings to judgment or final decree, and may enforce any such judgment or final decree against the Issuer or other obligor upon such Securities and collect in the manner provided by law out of the property of the Issuer or other obligor upon such Securities, wherever situated, the moneys adjudged or decreed to be payable.

In case there shall be pending proceedings relative to the Issuer or any other obligor upon the Securities of any series under Title 11 of the United States Code or any other applicable Federal or state bankruptcy, insolvency or other similar law, or in case a receiver, assignee or trustee in bankruptcy or reorganization, liquidator, sequestrator or similar official shall have been appointed for or taken possession of the Issuer or its property or such other obligor, or in case of any other judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor, the Trustee, irrespective of whether the principal of any Securities shall then be due and payable as therein expressed or by acceleration as authorized by this Indenture or otherwise and irrespective of whether the Trustee shall have made any demand pursuant to the provisions of this Section, shall be entitled and empowered, by intervention in such proceedings or otherwise:

(a) to file and prove a claim or claims for the whole amount of principal and interest (or, if the Securities of any series are Original Issue Discount Securities, such portion of the principal amount as may be specified in the terms of that series) owing and unpaid in respect of the Securities of any series, and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for all amounts owing the Trustee and any predecessor Trustee hereunder under Section 6.6) and of the Holders allowed in any judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor,

(b) unless prohibited by applicable law and regulations, to vote on behalf of the Holders of the Securities of any series in any election of a trustee or a standby trustee in arrangement, reorganization, liquidation or other bankruptcy or insolvency proceedings or person performing similar functions in comparable proceedings, and

(c) to collect and receive any moneys or other property payable or deliverable on any such claims, and to distribute all amounts received with respect to the claims of the Holders and of the Trustee on their behalf; and any trustee, receiver, or liquidator, custodian or other similar official is hereby authorized by each of the Holders to make payments to the Trustee, and, in the event that the Trustee shall consent to the making of payments directly to the Holders, to pay to the Trustee all amounts owing the Trustee and any predecessor Trustee hereunder under Section 6.6.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or vote for or accept or adopt on behalf of any Holder any plan or reorganization, arrangement, adjustment or composition affecting the Securities of any series or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Holder in any such proceeding except, as aforesaid, to vote for the election of a trustee in bankruptcy or similar person.

All rights of action and of asserting claims under this Indenture, or under any of the Securities, may be enforced by the Trustee without the possession of any of the Securities or the production thereof on any trial or other proceedings relative thereto, and any such action or proceedings instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment, subject to the payment of all amounts owing the Trustee and any predecessor Trustee hereunder under Section 6.6, shall be for the ratable benefit of the Holders of the Securities of each series in respect of which such action was taken.

In any proceedings brought by the Trustee (and also any proceedings involving the interpretation of any provision of this Indenture to which the Trustee shall be a party) the Trustee shall be held to represent all the Holders of the Securities of each series in respect of which such action was taken, and it shall not be necessary to make any Holders of the Securities parties to any such proceedings.

Section 5.3 Application Of Proceeds. Any moneys collected by the Trustee pursuant to this Article shall be applied in the following order at the date or dates fixed by the Trustee and, in case of the distribution of such moneys on account of principal, premium or interest, upon presentation of the several Securities in respect of which moneys have been collected and stamping (or otherwise noting) thereon the payment, or issuing Securities of such series in reduced principal amounts in exchange for the presented Securities of such series if only partially paid, or upon surrender thereof if fully paid:

FIRST: To the payment of all amounts due to the Trustee, each predecessor Trustee and their respective agents and attorneys pursuant to Section 6.6;

SECOND: In case the principal of the Securities in respect of which moneys have been collected shall not have become and be then due and payable, to the payment of interest on the Securities of such series in default in the order of the maturity of the installments of such interest, with interest (to the extent that such interest has been collected by the Trustee), to the extent that payment of such interest is enforceable under applicable law, upon the overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series, such payments to be made ratably to the persons entitled thereto, without discrimination or preference;

THIRD: In case the principal of or accrued and unpaid premium, if any, on the Securities in respect of which moneys have been collected shall have become and shall be then due and payable, to the payment of the whole amount then owing and unpaid upon all the Securities of such series for principal, premium and interest, with interest (to the extent that such interest has been collected by the Trustee), to the extent that payment of

such interest is enforceable under applicable law, upon the overdue principal, accrued and unpaid premium, if any, and overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series; and in case such moneys shall be insufficient to pay in full the whole amount so due and unpaid upon the Securities of such series, then to the payment of such principal, premium and interest, without preference or priority of any kind, ratably to the aggregate of such principal, accrued and unpaid premium, if any, and accrued and unpaid interest; and

FOURTH: To the payment of the remainder, if any, to the Issuer or any other person lawfully entitled thereto.

Section 5.4 Suits for Enforcement. In case an Event of Default has occurred, has not been waived and is continuing, the Trustee may in its discretion proceed to protect and enforce the rights vested in it by this Indenture by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any of such rights, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Section 5.5 Restoration of Rights on Abandonment of Proceedings. In case the Trustee shall have proceeded to enforce any right under this Indenture and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, then and in every such case the Issuer and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Issuer, the Trustee and the Holders shall continue as though no such proceedings had been taken.

Section 5.6 Limitations on Suits by Holders. No Holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any action or proceeding at law or in equity or in bankruptcy or otherwise upon or under or with respect to this Indenture, or for the appointment of a trustee, receiver, liquidator, custodian or other similar official or for any other remedy hereunder, unless such Holder previously shall have given to the Trustee written notice of one or more of the Events of Default herein specified with respect to such series of Securities and of the continuance thereof, as hereinbefore provided, and unless also the Holders of not less than 25% in aggregate principal amount of the Securities of such series then outstanding, or, in the case of any Event of Default described in clause (d), (e) or (f) of Section 5.1, 25% in aggregate principal amount of all Securities then outstanding, shall have made written request upon the Trustee to institute such action or proceedings in its own name as trustee hereunder and shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby and the Trustee for 60 days after its receipt of such notice, request and offer of indemnity shall have neglected, refused or failed to institute any such action or proceeding and no direction inconsistent with such written request shall have been given to the Trustee pursuant to Section 5.9. For the protection and enforcement of the provisions of this Section, each and every Holder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

Section 5.7 Unconditional Right of Holders to Institute Certain Suits. Notwithstanding any other provision in this Indenture and any provision of any Security, the right of any Holder of any Security to receive payment of the principal of, premium, if any, on and interest on such Security on or after the respective due dates expressed in such Security, or to institute suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 5.8 Powers and Remedies Cumulative; Delay or Omission not Waiver of Default. Except as provided in Section 2.9, no right or remedy herein conferred upon or reserved to the Trustee or to the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

No delay or omission of the Trustee or of any Holder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and, subject to Section 5.6, every power and remedy given by this Indenture or by law to the Trustee or to the Holders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Holders.

Section 5.9 Control by Holders. The Holders of a majority in aggregate principal amount of the Securities of each series affected (with each series voting as a separate class) at the time outstanding shall have the right to direct the time, method, and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to the Securities of such series by this Indenture; provided that such direction shall not be otherwise than in accordance with law and the provisions of this Indenture and provided further that (subject to the provisions of Section 6.1) the Trustee shall have the right to decline to follow any such direction if the Trustee, being advised by counsel, shall determine that the action or proceeding so directed may not lawfully be taken or if the Trustee in good faith by its board of directors, the executive committee, or a trust committee of directors or Responsible Officers of the Trustee shall determine that the action or proceedings so directed would involve the Trustee in personal liability or if the Trustee in good faith shall so determine that the actions or forbearances specified in or pursuant to such direction shall be unduly prejudicial to the interests of Holders of the Securities of all series so affected not joining in the giving of said direction, it being understood that (subject to Section 6.1) the Trustee shall have no duty to ascertain whether or not such actions or forbearances are unduly prejudicial to such Holders.

Nothing in this Indenture shall impair the right of the Trustee in its discretion to take any action deemed proper by the Trustee and which is not inconsistent with such direction or directions by Holders.

**Section 5.10 Waiver Of Past Defaults.** Prior to any acceleration of the maturity of the Securities of any series (or of all the Securities, as the case may be) as provided in Section 5.1, the Holders of a majority in aggregate principal amount of the Securities of such series at the time outstanding may on behalf of the Holders of all the Securities of such series waive any past default or Event of Default described in clauses (a), (b), (c) or (g) of Section 5.1 (or, in the case of an event specified in clause (d), (e) or (f) of Section 5.1, the Holders of a majority in aggregate principal amount of all the Securities then outstanding (voting as one class) may waive any such default or Event of Default), and its consequences except a default (a) in the payment of principal of, premium, if any, on or interest on any of the Securities or (b) in respect of a covenant or provision hereof which pursuant to Section 8.2 cannot be modified or amended without the consent of the Holder of each Security affected. In the case of any such waiver, the Issuer, the Trustee and the Holders of the Securities of such series (or of all of the Securities, as the case may be) shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Upon any such waiver, such default shall cease to exist and be deemed to have been cured and not to have occurred, and any Event of Default arising therefrom shall be deemed to have been cured, and not to have occurred for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or Event of Default or impair any right consequent thereon.

**Section 5.11 Trustee to Give Notice of Default, but May Withhold in Certain Circumstances.** The Trustee shall transmit to the Holders of any series, as the names and addresses of such Holders appear on the registry books, notice of all defaults which have occurred with respect to such series of which the Trustee has received written notice, such notice to be transmitted within 90 days after the occurrence thereof, unless such defaults shall have been cured before the giving of such notice (the term “default” or “defaults” for the purposes of this Section being hereby defined to mean any event or condition which is, or with notice or lapse of time or both would become, an Event of Default); provided that, except in the case of default in the payment of the principal of, premium, if any, on or interest on any of the Securities of such series or in the making of any sinking fund payment with respect to such series, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee, or a trust committee of directors or trustees and/or Responsible Officers of the Trustee in good faith determines that the withholding of such notice is in the interests of the Holders of such series.

**Section 5.12 Right of Court to Require Filing of Undertaking to Pay Costs.** All parties to this Indenture agree, and each Holder of any Security by his acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys’ fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; provided, however, that the provisions of this Section shall not apply to any suit instituted by the Trustee, to any suit instituted by any Holder or group of Holders of any series holding in the aggregate more than 10% in aggregate principal amount of the Securities of such series (or, in the case of any suit relating to or arising under clause (d), (e) or (f) of Section 5.1, 10% in aggregate principal amount of all Securities) outstanding, or to any suit instituted by any Holder for the enforcement of the payment of the principal of, premium, if any, on or interest on any Security on or after the due date expressed in such Security.

**ARTICLE SIX**

**CONCERNING THE TRUSTEE**

Section 6.1 Duties and Responsibilities of the Trustee; During Default; Prior to Default (a) . With respect to the Holders of any series of Securities issued hereunder, the Trustee, prior to the occurrence of an Event of Default with respect to the Securities of such series and after the curing or waiving of all Events of Default which may have occurred with respect to such series, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In case an Event of Default with respect to the Securities of a series has occurred (which has not been cured or waived) the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of their own affairs.

No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that

(b) prior to the occurrence of an Event of Default with respect to the Securities of any series and after the curing or waiving of all such Events of Default with respect to such series which may have occurred:

(i) the duties and obligations of the Trustee with respect to the Securities of any Series shall be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(c) in the absence of bad faith on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any statements, certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such statements, certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture;

(i) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts; and

(ii) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders pursuant to Section 5.9 relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture.



(d) None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there shall be reasonable ground for believing that the repayment of such funds or adequate indemnity against such liability is not reasonably assured to it.

Section 6.2 Certain Rights of the Trustee . Subject to Section 6.1:

(a) the Trustee may rely and shall be protected in acting or refraining from acting upon any resolution, Officer's Certificate or any other certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, debenture, note, coupon, security or other paper or document reasonably believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request, direction, order or demand of the Issuer mentioned herein shall be sufficiently evidenced by an Officer's Certificate (unless other evidence in respect thereof be herein specifically prescribed); and any resolution of the Board of Directors may be evidenced to the Trustee by a copy thereof certified by the secretary or an assistant secretary of the Issuer;

(c) the Trustee may consult with counsel selected by it in good faith and any advice or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted to be taken by it hereunder in good faith and in accordance with such advice or Opinion of Counsel;

(d) the Trustee shall be under no obligation to exercise any of the trusts or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee security or indemnity satisfactory to it against the costs, expenses and liabilities which might be incurred therein or thereby;

(e) the Trustee shall not be liable for any action taken or omitted by it in good faith and believed by it to be authorized or within the discretion, rights or powers conferred upon it by this Indenture;

(f) the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, appraisal, bond, debenture, note, coupon, security, or other paper or document but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled to examine, during business hours and upon reasonable notice, the books, records and premises of the Company, personally or by agent or attorney;

(g) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any such agent or attorney appointed with due care by it hereunder;

(h) the Trustee shall not be charged in the knowledge of any default or Event of Default with respect to any Securities of any series unless written notice of such default or Event of Default shall have been given to a Responsible Officer of the Trustee in accordance with the terms of the Indenture;

(i) in no event shall the Trustee be responsible or liable for special, indirect, punitive or consequential loss or damage of any kind whatsoever (including, but not limited to, loss of profit) irrespective of whether the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action;

(j) the rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder; and

(k) neither the Trustee nor the Paying Agent shall have any responsibility for effecting any foreign currency conversions, obtaining Exchange Rates or effecting calculations in connection therewith.

Section 6.3 Trustee not Responsible for Recitals, Disposition of Securities or Application of Proceeds Thereof. The recitals contained herein and in the Securities, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representation as to the validity or sufficiency of this Indenture or of the Securities. The Trustee shall not be accountable for the use or application by the Issuer of any of the Securities or of the proceeds thereof.

Section 6.4 Trustee and Agents May Hold Securities; Collections, etc. The Trustee or any agent of the Issuer or the Trustee, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not the Trustee or such agent and, subject to Sections 6.8 and 6.13, if operative, may otherwise deal with the Issuer and receive, collect, hold and retain collections from the Issuer with the same rights it would have if it were not the Trustee or such agent.

Section 6.5 Moneys Held by Trustee. Subject to the provisions of Section 10.4 hereof, all moneys received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, but need not be segregated from other funds except to the extent required by mandatory provisions of law. Neither the Trustee nor any agent of the Issuer or the Trustee shall be under any liability for interest on any moneys received by it hereunder.

Section 6.6 Compensation and Indemnification of Trustee and its Prior Claim. The Issuer covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, reasonable compensation (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) and the Issuer covenants and agrees to pay or reimburse the Trustee and each predecessor Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by or on behalf of it in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all agents and other persons not regularly in its employ) except any such expense, disbursement or advance as may arise from its negligence or willful misconduct (as determined by a court of competent jurisdiction in a final, non-appealable order). The Issuer also covenants to indemnify the Trustee and each predecessor Trustee for, and to hold it harmless against, any loss, liability, claim, damage or expense incurred without negligence or willful misconduct (as determined by a court of competent jurisdiction in a final, non-appealable order) on its part, arising out of or in connection with the acceptance or administration of this Indenture or the trusts hereunder and its duties hereunder, including the costs and expenses of defending itself against or investigating any claim of liability in connection with this transaction. The obligations of the Issuer under this Section to compensate and indemnify the Trustee and each predecessor Trustee and to pay or reimburse the Trustee and each predecessor Trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder and shall survive the satisfaction and discharge of this Indenture. As security for the performance of the obligations of the Company under this Section, the Trustee shall have a lien prior to the Securities of any series upon all property and funds held or collected by the Trustee as such, except funds held in trust for the payment of principal of, and premium or interest with respect to particular Securities or any coupons appertaining thereto. Without limiting any rights available to the Trustee under applicable law, any compensation or expense incurred by the Trustee after a default specified by Section 5.1(e) or (f) is intended to constitute an expense of administration under any then applicable bankruptcy or insolvency law.

Section 6.7 Right of Trustee to Rely on Officer's Certificate, etc. Subject to Sections 6.1 and 6.2, whenever in the administration of the trusts of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or willful misconduct on the part of the Trustee, be deemed to be conclusively proved and established by an Officer's Certificate delivered to the Trustee, and such certificate, in the absence of negligence or willful misconduct on the part of the Trustee, shall be full warrant to the Trustee for any action taken, suffered or omitted by it under the provisions of this Indenture upon the faith thereof.

Section 6.8 Qualification of Trustee; Conflicting Interests. If the Trustee has or shall acquire a conflicting interest within the meaning of the Trust Indenture Act of 1939, the Trustee shall either eliminate such interest or resign, to the extent and in the manner provided by, and subject to the provisions of, the Trust Indenture Act of 1939 and this Indenture. To the extent permitted by such Act, the Trustee shall not be deemed to have a conflicting interest by virtue of being a trustee under this Indenture with respect to Securities of more than one series.

Section 6.9 Persons Eligible for Appointment as Trustee. The Trustee for each series hereunder shall at all times be a person that is eligible pursuant to the Trust Indenture Act of 1939 to act as such and has combined capital and surplus of at least \$150,000,000. If such person publishes reports of condition at least annually, pursuant to law or to the requirements of its

supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 6.10.

Section 6.10 Resignation and Removal; Appointment of Successor Trustee. (a) The Trustee, or any trustee or trustees hereafter appointed, may at any time resign with respect to one or more or all series of Securities by giving written notice of resignation to the Issuer and by delivering notice thereof to Holders of the applicable series of Securities at their last addresses as they shall appear on the Security register. Upon receiving such notice of resignation, the Issuer shall promptly appoint a successor trustee or trustees with respect to the applicable series by written instrument in duplicate, executed by authority of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee or trustees. If no successor trustee shall have been so appointed with respect to any series and have accepted appointment within 30 days after the delivery of such notice of resignation, the resigning trustee may petition any court of competent jurisdiction for the appointment of a successor trustee, or any Securityholder who has been a bona fide Holder of a Security or Securities of the applicable series for at least six months may, subject to the provisions of Section 5.12, on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.

(b) In case at any time any of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 6.8 with respect to any series of Securities after written request therefor by the Issuer or by any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months; or

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 6.9 and shall fail to resign after written request therefor by the Issuer or by any such Securityholder; or

(iii) the Trustee shall become incapable of acting with respect to any series of Securities, or shall be adjudged a bankrupt or insolvent, or a receiver or liquidator of the Trustee or of its property shall be appointed, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation;

then, in any such case, the Issuer may remove the Trustee by written notice of at least 30 days in advance of the proposed effective date of such removal with respect to the applicable series of Securities and appoint a successor trustee for such series by written instrument, in duplicate, executed by order of the Board of Directors of the Issuer, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or, subject to the provisions of Section 5.12, any Securityholder who has been a bona fide Holder of a Security or Securities of

such series for at least six months may on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee with respect to such series. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

In addition, the Issuer may remove the Trustee with respect to Securities of any series without cause if the Issuer gives written notice to the Trustee of such proposed removal at least 30 days in advance of the proposed effective date of such removal.

(c) The Holders of a majority in aggregate principal amount of the Securities of one or more series (each series voting as a class) or of all series at the time outstanding may at any time remove the Trustee with respect to Securities of the applicable series or of all series, as the case may be, and appoint a successor trustee with respect to the Securities of the applicable series or of all series, as the case may be, by delivering to the Trustee so removed, to the successor trustee so appointed and to the Issuer the evidence provided for in Section 7.1 of the action in that regard taken by the Securityholders.

(d) Any resignation or removal of the Trustee with respect to any series and any appointment of a successor trustee with respect to such series pursuant to any of the provisions of this Section 6.10 shall become effective upon acceptance of appointment by the successor trustee as provided in Section 6.11.

Section 6.11 Acceptance of Appointment by Successor Trustee. Any successor trustee appointed as provided in Section 6.10 shall execute and deliver to the Issuer and to its predecessor trustee an instrument accepting such appointment hereunder, and thereupon the resignation or removal of the predecessor trustee with respect to all or any applicable series shall become effective and such successor trustee, without any further act, deed or conveyance, shall become vested with all rights, powers, duties and obligations with respect to such series of its predecessor hereunder, with like effect as if originally named as trustee for such series hereunder; but, nevertheless, on the written request of the Issuer or of the successor trustee, upon payment of its charges then unpaid, the trustee ceasing to act shall, subject to Section 10.4, pay over to the successor trustee all moneys at the time held by it hereunder with respect to such series and shall execute and deliver an instrument transferring to such successor trustee all such rights, powers, duties and obligations. Upon request of any such successor trustee, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor trustee all such rights and powers. Any trustee ceasing to act shall, nevertheless, retain a prior lien upon all property or funds held or collected by such trustee to secure any amounts then due it pursuant to the provisions of Section 6.6.

If a successor trustee is appointed with respect to the Securities of one or more (but not all) series, the Issuer, the predecessor Trustee and each successor trustee with respect to the Securities of any applicable series shall execute and deliver an indenture supplemental hereto which shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the predecessor Trustee with respect to the Securities of

any series as to which the predecessor Trustee is not retiring shall continue to be vested in the predecessor Trustee, and shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such trustees co-trustees of the same trust and that each such trustee shall be trustee of a trust or trusts under separate indentures.

No successor trustee with respect to any series of Securities shall accept appointment as provided in this Section 6.11 unless at the time of such acceptance such successor trustee shall be qualified under the provisions of Section 6.8 and eligible under the provisions of Section 6.9.

Upon acceptance of appointment by any successor trustee as provided in this Section 6.11, the Issuer shall deliver notice thereof to the Holders of Securities of any series for which such successor trustee is acting as trustee at their last addresses as they shall appear in the Security register. If the acceptance of appointment is substantially contemporaneous with the resignation, then the notice called for by the preceding sentence may be combined with the notice called for by Section 6.10. If the Issuer fails to send such notice within 10 days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be sent at the expense of the Issuer.

Section 6.12 Merger, Conversion, Consolidation or Succession to Business of Trustee . Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 6.8 and eligible under the provisions of Section 6.9, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding.

In case at the time such successor to the Trustee shall succeed to the trusts created by this Indenture any of the Securities of any series shall have been authenticated but not delivered, any such successor to the Trustee may adopt the certificate of authentication of any predecessor Trustee and deliver such Securities so authenticated; and, in case at that time any of the Securities of any series shall not have been authenticated, any successor to the Trustee may authenticate such Securities either in the name of any predecessor hereunder or in the name of the successor Trustee; and in all such cases such certificate shall have the full force which it is anywhere in the Securities of such series or in this Indenture provided that the certificate of the Trustee shall have; provided, that the right to adopt the certificate of authentication of any predecessor Trustee or to authenticate Securities of any series in the name of any predecessor Trustee shall apply only to its successor or successors by merger, conversion or consolidation.

Section 6.13 Preferential Collection Of Claims Against The Issuer . If and when the Trustee shall be or become a creditor of the Issuer (or any other obligor upon the Securities), the Trustee shall be subject to the provisions of the Trust Indenture Act of 1939 regarding the collection of claims against the Issuer (or any such other obligor).

**ARTICLE SEVEN**

**CONCERNING THE SECURITYHOLDERS**

Section 7.1 Evidence of Action Taken by Holders. Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by a specified percentage in aggregate principal amount of the Holders of any or all series may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such specified percentage of Holders in person or by agent duly appointed in writing, including through an electronic system for tabulating consents operated by the Depository for such series or otherwise; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments or evidence of electronic consents are delivered to the Trustee and, where it is hereby expressly required, to the Issuer. Proof of execution of any instrument by a Holder or of a writing by such Holder appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Sections 6.1 and 6.2) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Article. For purposes of determining the principal amount of outstanding Securities of any series the Holders of which are required, requested or permitted to give any request, demand, authorization, direction, notice, consent, waiver or take any other action under the Indenture, each Security denominated in a Foreign Currency shall be deemed to have a principal amount determined by an Exchange Rate Agent (as evidenced by a certificate of such Exchange Rate Agent) by converting the principal amount of such Security in the currency in which such Security is denominated into Dollars at the Exchange Rate as of the date of original issuance of such Security.

Section 7.2 Proof of Execution of Instruments and of Holding of Securities. Subject to Sections 6.1 and 6.2, proof of the execution of any instrument by a Holder or his, or its agent or proxy and proof of the holding by any person of any of the Securities shall be sufficient for any purpose of this Indenture if made in the following manner:

(a) The fact and date of the execution by any such person of any instrument may be proved by (i) the certificate of any notary public or other officer of any jurisdiction within the United States of America authorized to take acknowledgments of deeds that the person executing such instrument acknowledged to him the execution thereof, or (ii) by an affidavit of a witness to such execution sworn to before any such notary or other such officer. Where such execution is by a person acting in other than his or her individual capacity, such certificate or affidavit shall also contain sufficient proof of his authority.

(b) The holding of Securities shall be proved by the Security register or by a certificate of any duly appointed registrar thereof.

(c) The Trustee may require such other proof of any matter referred to in this Section 7.2 as it shall reasonably deem appropriate or necessary.

If the Issuer shall solicit from the Holders of Securities of any series any action, the Issuer may, at its option fix in advance a record date for the determination of Holders of Securities entitled to take such action, but the Issuer shall have no obligation to do so. Any such record date shall be fixed at the Issuer's discretion. If such a record date is fixed, such action may be sought or given before or after the record date, but only the Holders of Securities of record at the close of business on such record date shall be deemed to be Holders of Securities for the purpose of determining whether Holders of the requisite proportion of outstanding Securities of such series have authorized or agreed or consented to such action, and for that purpose the outstanding Securities of such series shall be computed as of such record date; provided that no such action shall be effective hereunder unless taken on or prior to the applicable Expiration Date by Holders of the requisite principal amount of outstanding Securities of such series on such record date. Nothing in this paragraph shall be construed to prevent the Issuer from setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite principal amount of outstanding Securities of the relevant series on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Issuer, at its own expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Trustee and to each Holder of Securities of the relevant series.

With respect to any record date set pursuant to this Section, the party hereto which sets such record date may designate any day as the "Expiration Date," and from time to time may change the Expiration Date to any earlier or later day; provided that no such change shall be effective unless notice of the proposed new Expiration Date is given to the Trustee and to each Holder of Securities of the relevant series in the manner, on or prior to the existing Expiration Date. If an Expiration Date is not designated with respect to any record date set pursuant to this Section, the party hereto which set such record date shall be deemed to have initially designated the 180th day after such record date as the Expiration Date with respect thereto, subject to its right to change the Expiration Date as provided in this paragraph.

Section 7.3 Holders To Be Treated As Owners. The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the person in whose name any Security shall be registered upon the Security register for such series as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the principal of, premium, if any on and, subject to the provisions of this Indenture, interest on such Security and for all other purposes; and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary. All such payments so made to any such person, or upon his order, shall be valid, and, to the extent of the sum or sums so paid, effectual to satisfy and discharge the liability for moneys payable upon any such Security.

None of the Issuer, the Trustee, and any agent of the Issuer or the Trustee will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a Global Security or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.



Section 7.4 Securities Owned By Issuer Deemed Not Outstanding. In determining whether the Holders of the requisite aggregate principal amount of Securities have concurred in any direction, consent or waiver under this Indenture, Securities which are owned by the Issuer or any other obligor on the Securities with respect to which such determination is being made or by any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities with respect to which such determination is being made shall be disregarded and deemed not to be outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver only Securities which the Trustee knows are so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Issuer or any other obligor upon the Securities or any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities. In case of a dispute as to such right, the advice of counsel shall be full protection in respect of any decision made by the Trustee in accordance with such advice. Upon request of the Trustee, the Issuer shall furnish to the Trustee promptly an Officer's Certificate listing and identifying all Securities, if any, known by the Issuer to be owned or held by or for the account of any of the above-described persons; and, subject to Sections 6.1 and 6.2, the Trustee shall be entitled to accept such Officer's Certificate as conclusive evidence of the facts therein set forth and of the fact that all securities not listed therein are outstanding for the purpose of any such determination.

Section 7.5 Action of Holders Binding on Future Holders. Any action taken by the Holder of any Security shall be conclusive and binding upon such Holder and upon all future Holders and owners of such Security and of any Securities issued in exchange or substitution therefor, irrespective of whether or not any notation in regard thereto is made upon any such Security. Any action taken by the Holders of the percentage in aggregate principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action shall be conclusively binding upon the Issuer, the Trustee and the Holders of all the Securities affected by such action.

## ARTICLE EIGHT

### SUPPLEMENTAL INDENTURES

Section 8.1 Supplemental Indentures without Consent of Holders. The Issuer and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act of 1939 as in force at the date of the execution thereof) for one or more of the following purposes:

- (a) to convey, transfer, assign, mortgage or pledge to the Trustee as security for the Securities any property or assets;
- (b) to evidence the succession of another entity to the Issuer, or successive successions, and the assumption by such successor of the covenants, agreements and obligations of the Issuer pursuant to Article Nine;

(c) to add to the covenants of the Issuer such further covenants, restrictions, conditions or provisions for the protection of the Holders of all or any series of Securities (and if such covenants, restrictions, conditions or provisions are to be for the benefit of less than all series of Securities stating that such covenants are expressly being included solely for the benefit of such series), and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default permitting the enforcement of all or any of the several remedies provided in this Indenture as herein set forth; provided, that in respect of any such additional covenant, restriction, condition or provision such supplemental indenture may provide for a particular period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such an Event of Default or may limit the remedies available to the Trustee upon such an Event of Default or may limit the right of the Holders of a majority in aggregate principal amount of the Securities of such series to waive such an Event of Default;

(d) to cure any ambiguity or inconsistency or to correct or supplement any provision contained herein or in any supplemental indenture which may be defective or inconsistent with any other provision contained herein or in any supplemental indenture; or to conform the terms hereof, as amended and supplemented, that are applicable to the Securities of any series to the description of the terms of such Securities in the offering memorandum, prospectus supplement or other offering document applicable to such Securities at the time of initial sale thereof; or to make such other provisions in regard to matters or questions arising under this Indenture or under any supplemental indenture as the Issuer may deem necessary or desirable and which shall not adversely affect the interests of the Holders of the Securities;

(e) to provide for the issuance under this Indenture of Securities in coupon form (including Securities registrable as to principal only) and to provide for exchangeability of such Securities with Securities issued hereunder in fully registered form, and to make all appropriate changes for such purpose;

(f) to establish the form or terms of Securities of any series as permitted by Sections 2.1 and 2.3, or to authorize the issuance of additional Securities of a series previously authorized or to add to the conditions, limitations or restrictions on the authorized amount, terms or purposes of issue, authentication or delivery of the Securities of any series, as herein set forth, or other conditions, limitations or restrictions thereafter to be observed;

(g) to evidence and provide for the acceptance of appointment hereunder by a successor trustee with respect to the Securities of one or more series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one trustee, pursuant to the requirements of Section 6.11;

(h) to evidence any changes to this Indenture pursuant to Sections 6.10, 6.11 or 6.12 hereof as permitted by the terms thereof;

(i) to delete or modify any Events of Default with respect to any series of the Securities, the form and terms of which are being first established as permitted in Section 2.3 (and, if any such Event of Default is applicable to fewer than all such series of the Securities, specifying the series to which such Event of Default is applicable), and to specify the rights and remedies of the Trustee and the Holders of such Securities in connection therewith;

(j) to add to or change any of the provisions of this Indenture to provide, change or eliminate any restrictions on the payment of principal of or premium, if any, on Securities; provided that any such action shall not adversely affect the interests of the Holders of Securities of any series in any material respect;

(k) to change or eliminate any of the provisions of this Indenture; provided that any such change or elimination shall become effective only when there is no outstanding Security of any series created prior to the execution of such supplemental indenture that is entitled to the benefit of such provision and as to which such supplemental indenture would apply;

(l) to add to or change or eliminate any provision of this Indenture as shall be necessary or desirable in accordance with any amendments to the Trust Indenture Act;

(m) to add guarantors or co-obligors with respect to any series of Securities or to release guarantors from their guarantees of Securities in accordance with the terms of the applicable series of Securities;

(n) to make any change in any series of Securities that does not adversely affect in any material respect the rights of the Holders of such Securities;

(o) to provide for uncertificated securities in addition to certificated securities;

(p) to supplement any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Securities; provided that any such action shall not adversely affect the interests of the Holders of Securities of such series or any other series of Securities in any material respect; and

(q) to prohibit the authentication and delivery of additional series of Securities.

The Trustee is hereby authorized to join in the execution of any such supplemental indenture, to make any further appropriate agreements and stipulations which may be therein contained and to accept the conveyance, transfer, assignment, mortgage or pledge of any property thereunder, but the Trustee shall not be obligated to enter into any such supplemental indenture which affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this Section may be executed without the consent of the Holders of any of the Securities at the time outstanding, notwithstanding any of the provisions of Section 8.2.

Section 8.2 Supplemental Indentures with Consent of Holders. With the consent (evidenced as provided in Article Seven) of the Holders of not less than a majority in aggregate principal amount of the Securities at the time outstanding of all series affected by such supplemental indenture (voting separately), the Issuer and the Trustee may, from time to time and at any time, enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act of 1939 as in force at the date of execution thereof) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner the rights of the Holders of the Securities of each such series; provided, that no such supplemental indenture shall:

(a) extend the final maturity of any Security, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any amount payable on redemption thereof, or reduce the amount of the principal of an Original Issue Discount Security that would be due and payable upon an acceleration of the maturity thereof pursuant to Section 5.1 or the amount thereof provable in bankruptcy pursuant to Section 5.2, or impair or affect the right of any Holder to institute suit for the payment thereof or the right of repayment, if any, at the option of the Holder without the consent of the Holder of each Security so affected; or

(b) reduce the aforesaid percentage of Securities of any series, the consent of the Holders of which is required for any such supplemental indenture, without the consent of the Holders of each Security so affected.

It shall not be necessary for the consent of the Holders under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

Promptly after the execution by the Issuer and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Issuer shall deliver a notice thereof to the Holders of Securities of each series affected thereby at their addresses as they shall appear on the registry books of the Issuer, setting forth in general terms the substance of such supplemental indenture. Any failure of the Issuer to deliver such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

Section 8.3 Trustee Protected. Upon the request of the Issuer, accompanied by an Officer's Certificate and Opinion of Counsel required by Section 8.5 and evidence reasonably satisfactory to the Trustee of consent of the Holders if the supplemental indenture is to be executed pursuant to Section 8.2, the Trustee shall join with the Issuer in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion, but shall not be obligated to, enter into such supplemental indenture.

Section 8.4 Effect Of Supplemental Indenture. Upon the execution of any supplemental indenture pursuant to the provisions hereof, this Indenture shall be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Issuer and the Holders of Securities of each series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

Section 8.5 Documents To Be Given To Trustee. The Trustee, subject to the provisions of Sections 6.1 and 6.2, may receive an Officer's Certificate and an Opinion of Counsel as conclusive evidence that any such supplemental indenture is authorized and permitted by this Indenture and complies with the applicable provisions of this Indenture.

Section 8.6 Notation On Securities In Respect Of Supplemental Indentures. Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to the provisions of this Article may bear a notation in form approved by the Trustee for such series as to any matter provided for by such supplemental indenture or as to any action taken at any such meeting. If the Issuer or the Trustee shall so determine, new Securities of any series so modified as to conform, in the opinion of the Trustee and the Issuer, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Issuer, authenticated by the Trustee and delivered in exchange for the Securities of such series then outstanding.

## ARTICLE NINE

### CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 9.1 Covenant Not To Merge, Consolidate, Sell Or Convey Property Except Under Certain Conditions. Nothing contained in this Indenture or in any of the Securities shall prevent any consolidation of the Issuer with, or merger of the Issuer into, any other entity or entities (whether or not affiliated with the Issuer), or successive consolidations or mergers to which the Issuer or its successor or successors shall be a party or parties, or shall prevent any sale, lease or conveyance of the property of the Issuer as an entirety or substantially as an entirety; provided, however, that either the Issuer shall be the continuing entity or the successor entity shall be an entity organized and existing under the laws of the United States of America or a state thereof or the District of Columbia; and provided, further, that the Issuer hereby covenants and agrees, that upon any such consolidation, merger, sale, lease or conveyance, the due and punctual payment of the principal of and interest on all the Securities, according to their tenor, and the due and punctual performance and observance of all of the covenants and conditions of this Indenture to be performed or observed by the Issuer, shall be expressly assumed, by supplemental indenture satisfactory in form to the Trustee, executed and delivered to the Trustee, by the entity formed by such consolidation, or into which the Issuer shall have been merged, or which shall have acquired such property, if the Issuer shall not be the surviving entity.

Section 9.2 Successor Corporation Substituted. In case of any such consolidation, merger, sale or conveyance, and following such an assumption by the successor entity, such successor entity shall succeed to and be substituted for the Issuer, with the same effect as if it had been named as the Issuer herein.

Such successor corporation may cause to be signed, and may issue either in its own name or in the name of the Issuer prior to such succession any or all of the Securities issuable hereunder which theretofore shall not have been signed by the Issuer and delivered to the Trustee; and, upon the order of such successor entity, instead of the Issuer, and subject to all the terms, conditions and limitations in this Indenture prescribed, the Trustee shall authenticate and shall deliver any Securities which previously shall have been signed and delivered by the officers of the Issuer to the Trustee for authentication, and any Securities which such successor corporation thereafter shall cause to be signed and delivered to the Trustee for that purpose. All of the Securities so issued shall in all respects have the same legal rank and benefit under this Indenture as the Securities theretofore or thereafter issued in accordance with the terms of this Indenture as though all of such Securities had been issued at the date of the execution hereof.

In case of any such consolidation, merger, sale, lease or conveyance, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

In the event of any such sale or conveyance (other than a conveyance by way of lease) the Issuer or any successor corporation which shall theretofore have become such in the manner described in this Article shall be discharged from all obligations and covenants under this Indenture and the Securities and may be liquidated and dissolved.

Section 9.3 Opinion Of Counsel To Trustee. The Trustee, subject to the provisions of Sections 6.1 and 6.2, shall receive an Opinion of Counsel as conclusive evidence that any such consolidation, merger, sale, lease or conveyance, and any such assumption, and any such liquidation or dissolution, complies with the applicable provisions of this Indenture.

## ARTICLE TEN

### **SATISFACTION AND DISCHARGE OF INDENTURE AND SECURITIES; UNCLAIMED MONEYS**

Section 10.1 Satisfaction and Discharge of Indenture. If at any time (a) the Issuer shall have paid or caused to be paid the principal of, premium, if any, and interest on all the Securities of any series outstanding hereunder, as and when the same shall have become due and payable or (b) the Issuer shall have delivered to the Trustee for cancellation all Securities of any series theretofore authenticated and delivered (other than any Securities of such series which shall have been destroyed, lost or stolen and which shall have been replaced or paid as provided in Section 2.9 and Securities for whose payment money has theretofore been deposited in trust as provided in Section 3.4) or (c) (i) all the securities of such series not theretofore delivered to the Trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption (including, without limitation, by operation of any mandatory sinking fund) under arrangements satisfactory to the Trustee for the

giving of notice of redemption, and (ii) the Issuer shall have irrevocably deposited or caused to be deposited with the Trustee as trust funds the entire amount in the currency or currency unit in which such Securities of such series are payable (other than moneys repaid by the Trustee or any paying agent to the Issuer in accordance with Section 10.4) sufficient to pay (without investment or reinvestment of any kind) at maturity or upon redemption all Securities of such series not theretofore delivered to the Trustee for cancellation, including principal, premium, if any, and interest due or to become due to such date of maturity or redemption date, as the case may be, and if, in any such case, the Issuer shall also pay or cause to be paid all other sums payable hereunder by the Issuer with respect to Securities of such series, then this Indenture shall cease to be of further effect with respect to Securities of such series (except as to (i) rights of registration of transfer and exchange of such Securities herein expressly provided for, and the Issuer's right of optional redemption of such Securities, (ii) substitution of apparently mutilated, defaced, destroyed, lost or stolen Securities pursuant to Section 2.9, (iii) rights of the Holders to receive payments of principal and premium, if any, thereof and interest thereon as and when the same shall become due and payable from the trust fund established pursuant to Section 10.1 (c) or Section 10.2, and remaining rights of the Holders to receive mandatory sinking fund payments, if any from the trust fund established pursuant to Section 10.1 (c) or Section 10.2, (iv) the rights, obligations and immunities of the Trustee hereunder and (v) the rights of the Holders of such series as beneficiaries hereof with respect to the property so deposited with the Trustee payable to all or any of them), and the Trustee, on demand of the Issuer accompanied by an Officer's Certificate and an Opinion of Counsel and at the cost and expense of the Issuer, shall execute proper instruments acknowledging such satisfaction of and discharging this Indenture with respect to Securities of such series. The Issuer agrees to reimburse the Trustee for any costs or expenses thereafter reasonably and properly incurred and to compensate the Trustee for any services thereafter reasonably and properly rendered by the Trustee in connection with this Indenture or the Securities of such series.

Section 10.2 Defeasance. (A) Subject to Section 10.1, the Issuer shall be deemed to have paid the principal of, premium, if any, and interest, if any, on any Security or Securities outstanding hereunder as and when the same shall have become due and payable, if the Issuer shall have irrevocably deposited or caused to be deposited in trust with the Trustee (i) funds in an amount (in such currency, currencies or currency unit or units in which such outstanding Securities are payable) or (ii) in the case of Securities denominated in Dollars, U.S. Government Obligations (as defined below) or, in the case of Securities denominated in a Foreign Currency, Foreign Government Securities, which through the payment of interest and principal in respect thereof in accordance with their terms will provide, not later than one business day before the due date of any payment of principal (including any premium) and interest, if any, under such Securities, money in an amount, or (iii) a combination (i) and (ii), sufficient (in the opinion with respect to (ii) and (iii) of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) to pay (without investment or reinvestment of any kind) and discharge each installment of principal of (including any premium), and interest, if any, on such outstanding Securities on the dates such installments of interest or principal are due, in the currency, currencies or currency unit or units, in which such Securities are payable, or if the Securities of such series are to be called for redemption, to pay and discharge the redemption price on the Securities called for redemption on the applicable redemption date.

Upon receipt by the Trustee of funds, U.S. Government Obligations and/or Foreign Government Securities, in accordance with this Section, together with any required documents, the Trustee shall, upon receipt of a Company Order, acknowledge in writing that the Security or Securities or portions thereof with respect to which such deposit was made are deemed to have been paid for all purposes of this Indenture and that the entire indebtedness of the Company in respect thereof is deemed to have been satisfied and discharged.

(B) A Security of any particular series may also provide that the Issuer shall as a condition of effectuating this Section 10.2 have either:

(a) delivered to the Trustee (i) an Officer's Certificate and Opinion of Counsel to the effect that (1) for Federal income tax purposes, the deposit of such cash and/or U.S. Government Obligations or Foreign Government Securities in trust with the Trustee and the satisfaction and discharge of this Indenture with respect to Securities of such series pursuant to this Section 10.2 will not cause the Holders of Securities of such series to recognize income, gain or loss at such time and (2) for Federal income tax purposes, such Holders (and future Holders of Securities of such series) will be subject to tax in the same manner as if the events described in the preceding clause (A) had not occurred, and (ii) an undertaking providing that the Issuer shall indemnify the Trustee on an after-tax basis against any increase in tax liability caused by the defeasance referred to in this Section 10.2 resulting from any change in Federal, state or local tax law subsequent to the date referred to in the last sentence of paragraph (A) of this Section 10.2 to the extent necessary to retire the Securities of such series as provided in the last sentence of clause (A) of this Section 10.2; or, in the alternative, or

(b) entered into an undertaking providing that the Issuer shall indemnify the Trustee and the Holders (and future Holders) of Securities of such series on an after-tax basis against any increase in tax liability caused by the defeasance referred to in this Section 10.2.

Section 10.3 Application by Trustee of Moneys, U.S. Government Obligations or Foreign Government Securities Deposited for Payment Of Securities. Subject to Section 10.5, all moneys, U.S. Government Obligations or Foreign Government Securities deposited with the Trustee pursuant to Section 10.1 or Section 10.2 shall be held in trust and applied by it to the payment, either directly or through any paying agent (including the Issuer acting as its own paying agent), to the Holders of the particular Securities of such series for the payment or redemption of which such moneys, U.S. Government Obligations or Foreign Government Securities have been deposited with the Trustee, of all sums due and to become due thereon for principal, premium, if any, and interest; but such moneys, U.S. Government Obligations or Foreign Government Securities need not be segregated from other funds except to the extent required by law.

Section 10.4 Repayment or Delivery of Moneys, U.S. Government Obligations or Foreign Government Securities Held by Paying Agent. In connection with the satisfaction and discharge of this Indenture with respect to Securities of any series, all moneys, U.S. Government Obligations or Foreign Government Securities then held by any paying agent under the provisions of this Indenture with respect to such series of Securities shall, upon demand of the Issuer, be paid or delivered to the Trustee and thereupon such paying agent shall be released from all further liability with respect to such moneys, U.S. Government Obligations or Foreign Government Securities.



Section 10.5 Return Of Moneys, U.S. Government Obligations Or Foreign Government Securities Held By Trustee And Paying Agent Unclaimed For Two Years. Any moneys, U.S. Government Obligations or Foreign Government Securities deposited with or paid to the Trustee or any paying agent for the payment of the principal of, premium, if any, or interest on any Security of any series and not applied but remaining unclaimed for two years after the date upon which such principal, premium or interest shall have become due and payable, shall, upon the written request of the Issuer and unless otherwise required by mandatory provisions of applicable escheat or abandoned or unclaimed property laws, be repaid or delivered to the Issuer by the Trustee for such series or such paying agent, and the Holder of the Security of such series shall, unless otherwise required by mandatory provisions of applicable escheat or abandoned or unclaimed property laws, thereafter look only to the Issuer for any payment which such Holder may be entitled to collect, and all liability of the Trustee or any paying agent with respect to such moneys, U.S. Government Obligations or Foreign Government Securities shall thereupon cease.

Section 10.6 Reinstatement. If the Trustee is unable to apply any money, U.S. Government Obligations or Foreign Government Securities in accordance with Section 10.1 or 10.2 by reason of any legal proceeding or by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application, the Issuer's obligations under this Indenture and such Securities shall be revived and reinstated as though no deposit had occurred pursuant to Section 10.1 or 10.2 until such time as the Trustee is permitted to apply all such money, U.S. Government Obligations or Foreign Government Securities in accordance with Section 10.1 or 10.2; provided, however, that if the Company has made any payment of interest on or principal of (and premium, if any) on such Securities because of the reinstatement of its obligations, the Company shall be subrogated to the rights of the Holders of such series of Securities to receive such payment from the money, U.S. Government Obligations or Foreign Government Securities held by the Trustee.

## ARTICLE ELEVEN

### MISCELLANEOUS PROVISIONS

Section 11.1 Incorporators, Stockholders, Officers and Directors of Issuer Exempt from Individual Liability. No recourse under or upon any obligation, covenant or agreement contained in this Indenture, or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, as such or against any past, present or future stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise; it being expressly agreed and understood that this Indenture and the Securities are solely corporate obligations, and that no personal liability whatsoever shall attach to, or be incurred by, any incorporator, as such or against any past, present or future stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, because of the incurring of the indebtedness hereby authorized or under or by reason of any of the obligations, covenants, promises or agreements contained in this Indenture or in any of the Securities, or to be implied herefrom or therefrom, all such liability being expressly waived and released by the acceptance of the Securities by the Holders thereof and as part of the consideration for the issue of the Securities.

Section 11.2 Provisions of Indenture for the Sole Benefit of Parties and Securityholders . Nothing in this Indenture or in the Securities, expressed or implied, shall give or be construed to give to any person, firm or corporation, other than the parties hereto and their successors and the Holders of the Securities, any legal or equitable right, remedy or claim under this Indenture or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto and their successors and of the Holders of the Securities.

Section 11.3 Successors and Assigns of Issuer Bound by Indenture . All the covenants, stipulations, promises and agreements in this Indenture contained by or in behalf of the Issuer shall bind its successors and assigns, whether so expressed or not.

Section 11.4 Notice And Demands On Issuer, Trustee And Securityholders . Any notice or demand which by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the Holders of Securities to or on the Issuer may be given or served by being deposited postage prepaid, first-class mail (except as otherwise specifically provided herein) addressed (until another address of the Issuer is filed by the Issuer with the Trustee) to AIR PRODUCTS AND CHEMICALS, INC., 7201 Hamilton Boulevard, Allentown, Pennsylvania 18195-1501, Attention: Corporate Secretary. Any notice, direction, request or demand by the Issuer or any Holder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made at the Corporate Trust Office.

Where this Indenture provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid (or, with respect to Global Securities, delivered in accordance with the Depository's applicable procedures), to each Holder entitled thereto, at his last address as it appears in the Security register. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case, by reason of the suspension of or irregularities in regular mail service, it shall be impracticable to mail notice to the Issuer and Holders when such notice is required to be given pursuant to any provision of this Indenture, then any manner of giving such notice as shall be satisfactory to the Trustee shall be deemed to be a sufficient giving of such notice. In any case where notice to Holders is given by mail; neither the failure to mail such notice nor any defect in any notice so mailed to any particular Holder shall affect the sufficiency of such notice with respect to other Holders, and any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given. The Trustee agrees to accept and act upon

instructions or directions pursuant to this Indenture sent by unsecured e-mail, pdf, facsimile transmission or other similar unsecured electronic methods, provided, however, that the Trustee shall have received an incumbency certificate listing persons designated to give such instructions or directions and containing specimen manual, facsimile or electronic signatures of such designated persons, which such incumbency certificate shall be amended and replaced whenever a person is to be added or deleted from the listing. If the Issuer elects to give the Trustee e-mail or facsimile instructions (or instructions by a similar electronic method) and the Trustee in its good faith discretion elects to act upon such instructions, the Trustee's good faith understanding of such instructions shall be deemed controlling. The Trustee shall not be liable for any losses, costs or expenses arising directly or indirectly from the Trustee's good faith reliance upon and compliance with such instructions notwithstanding such instructions conflict or are inconsistent with a subsequent written instruction. The Issuer agrees to assume all risks arising out of the use of such electronic methods to submit instructions and directions to the Trustee that the Trustee relies on in good faith, including without limitation the risk of the Trustee acting on unauthorized instructions, and the risk of interception and misuse by third parties.

Notwithstanding any other provision of this Indenture or any Note, where this Indenture or any Note provides for notice of any event or any other communication (including any notice of redemption or repurchase) to a Holder of a Global Security (whether by mail or otherwise), such notice shall be sufficiently given if given to the Depository (or its designee) pursuant to the standing instructions from the Depository or its designee, including by electronic mail in accordance with accepted practices at the Depository.

Section 11.5 Officer's Certificates and Opinions of Counsel; Statements To Be Contained Therein. Upon any application or demand by the Issuer to the Trustee to take any action under any of the provisions of this Indenture, the Issuer shall furnish to the Trustee an Officer's Certificate stating that all conditions precedent provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.

Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant provided for in this Indenture shall include (a) a statement that the person making such certificate or opinion has read such covenant or condition, (b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based, (c) a statement that, in the opinion of such person, he or she has made such examination or investigation as is necessary to enable such person to express an informed opinion as to whether or not such covenant or condition has been complied with and (d) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with.

Any certificate, statement or opinion of an officer of the Issuer may be based, insofar as it relates to legal matters, upon a certificate or opinion of or representations by counsel, unless such officer knows that the certificate or opinion or representations with respect to the matters upon which his or her certificate, statement or opinion may be based as aforesaid are erroneous, or in

the exercise of reasonable care should know that the same are erroneous. Any certificate, statement or opinion of counsel may be based, insofar as it relates to factual matters, information with respect to which is in the possession of the Issuer, upon the certificate, statement or opinion of or representations by an officer or officers of the Issuer, unless such counsel knows that the certificate, statement or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate, statement or opinion of an officer of the Issuer or of counsel may be based, insofar as it relates to accounting matters, upon a certificate or opinion of or representations by an accountant or firm of accountants in the employ of the Issuer, unless such officer or counsel, as the case may be, knows that the certificate or opinion or representations with respect to the accounting matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate or opinion of any independent firm of public accountants filed with the Trustee shall contain a statement that such firm is independent.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such person, or that they be so certified or covered by only one document, but one such person may certify or give an opinion with respect to some matters and one or more other such persons as to other matters, and any such person may certify or give an opinion as to such matters in one or several documents.

Where any person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Any certificate or opinion may be signed by the manual, facsimile or electronic signature of the person providing the opinion or certificate and may be delivered to the Trustee by unsecured e-mail, pdf, facsimile transmission or other similar unsecured electronic method.

Section 11.6 Payments Due On Saturdays, Sundays And Holidays. If the date of maturity of interest on or principal of or premium, if any, on the Securities of any series or the date fixed for redemption or repayment of any such Security shall not be a business day at the place or places designated for payment in respect of such Securities, then payment of interest or principal need not be made on such date, but may be made on the next succeeding business day with the same force and effect as if made on the date of maturity or the date fixed for redemption, and no interest shall accrue for the period after such date.

Section 11.7 Conflict Of Any Provision Of Indenture With Trust Indenture Act Of 1939. If any provision hereof limits, qualifies or conflicts with a provision of the Trust Indenture Act of 1939, which is required under such Act to be part of and govern this Indenture, the latter provision shall control. If any provision of this Indenture modifies or excludes any provision of the Trust Indenture Act of 1939 which may be so modified or excluded, the latter provision shall be deemed to apply to this Indenture as so modified or to be excluded, as the case may be.

Section 11.8 New York Law To Govern; Waiver of Trial by Jury; Submission to New York Jurisdiction. This Indenture and each Security shall be deemed to be a contract under the laws of the State of New York, and for all purposes shall be construed in accordance with the laws of said State, except as may otherwise be required by mandatory provisions of law.

EACH PARTY HERETO, AND EACH HOLDER OF A SECURITY BY ACCEPTANCE THEREOF, HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS INDENTURE.

Each party hereto hereby irrevocably submits to the jurisdiction of any New York State court sitting in the Borough of Manhattan in the City of New York or any federal court sitting in the Borough of Manhattan in the City of New York in respect of any suit, action or proceeding arising out of or relating to this Indenture and the Securities, and irrevocably accepts for itself and in respect of its property, generally and unconditionally, jurisdiction of the aforesaid courts.

Section 11.9 Counterparts. This Indenture may be executed in any number of counterparts, each of which shall be an original; but such counterparts shall together constitute but one and the same instrument.

Section 11.10 Effect Of Headings and Table of Contents. The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

Section 11.11 Moneys Of Different Currencies To Be Segregated. The Trustee shall segregate all moneys, funds and accounts held by the Trustee hereunder in one currency from any money, funds or accounts in any other currencies, notwithstanding any provision herein which would otherwise permit the Trustee to commingle such amounts.

Section 11.12 Payment To Be In Proper Currency. Each reference in any Security, or in the resolution of the Board of Directors, Officer's Certificate or supplemental indenture relating thereto, to any currency shall be of the essence. Except as provided in Section 2.13, the obligation of the Issuer to make any payment of principal of (and premium, if any) and interest on any Security shall not be discharged or satisfied by any tender by the Issuer, or recovery by the Trustee, in any currency other than the Specified Currency then due and payable. If any such tender or recovery is in a currency other than the Specified Currency, the Trustee may (but shall not be required to) take such actions as it considers appropriate to exchange such currency for the Specified Currency. The costs and risks of any such exchange, including without limitation the risks of delay and exchange rate fluctuation, shall be borne by the Issuer, and the Issuer shall remain fully liable for any shortfall or delinquency in the full amount of Specified Currency then due and payable, and in no circumstances shall the Trustee be liable therefor. The Issuer hereby waives any defense of payment based upon any such tender or recovery which is not in the Specified Currency, or which, when exchanged for the Specified Currency by the Trustee is less than the full amount of Specified Currency then due and payable.

Any costs incurred by or on behalf of the Issuer (other than costs incurred by the Trustee that are passed on to the Issuer as provided above) in connection with the conversion of any Foreign Currency to Dollars pursuant to an election made by a Holder in accordance with Section 2.13 shall be borne by the Holder making such an election through deduction from payments required to be made to such Holder pursuant to the terms of the Security or this Indenture.

Section 11.13 Severability Clause. In case any provision in this Indenture or in the Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

Section 11.14 Force Majeure. In no event shall the Trustee be responsible or liable for any failure or delay in the performance of its obligations hereunder arising out of or caused by, directly or indirectly, forces beyond its control, including, without limitation, strikes, work stoppages, accidents, acts of war or terrorism, civil or military disturbances, nuclear or natural catastrophes or acts of God, and interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services; it being understood that the Trustee shall use reasonable efforts which are consistent with accepted practices in the banking industry to resume performance as soon as practicable under the circumstances.

Section 11.15 FATCA. In order to comply with applicable tax laws, rules and regulations (inclusive of directives, guidelines and interpretations promulgated by competent authorities) in effect from time to time (“Applicable Law”), the Issuer agrees upon written request from the Trustee (i) to provide to the Trustee such reasonable information as it has in its possession about Holders or other applicable parties so the Trustee can determine whether it has tax related obligations under Applicable Law, (ii) that the Trustee shall be entitled to make any withholding or deduction from payments under the Indenture to the extent necessary to comply with Applicable Law for which the Trustee shall not have any liability, and (iii) to hold harmless the Trustee for any losses it may suffer due to the actions it takes to comply with such Applicable Law. The terms of this section shall survive the termination of this Indenture.

## ARTICLE TWELVE

### REDEMPTION OF SECURITIES AND SINKING FUNDS

Section 12.1 Applicability of Article. The provisions of this Article shall be applicable to the Securities of any series which are redeemable before their maturity or to any sinking fund for the retirement of Securities of a series except as otherwise specified as contemplated by Section 2.3 for Securities of such series.

Section 12.2 Notice of Redemption; Partial Redemptions. Notice of redemption to the Holders of Securities of any series to be redeemed as a whole or in part shall be given by delivering notice of such redemption, at least 15 days and not more than 60 days prior to the date fixed for redemption to such Holders of Securities of such series in the manner provided in

Section 11.4. Any notice so given shall be conclusively presumed to have been duly given, whether or not the Holder receives the notice. Failure to deliver notice or any defect in the notice to the Holder of any Security of a series designated for redemption as a whole or in part shall not affect the validity of the proceedings for the redemption of any other Security of such series.

The notice of redemption to each such Holder shall specify (a) the Securities to be redeemed (including CUSIP, ISIN or other similar numbers, if available along with the statement in Section 2.15), (b) the date fixed for redemption, (c) the redemption price, (d) the place or places of payment, that payment will be made upon presentation and surrender of such Securities, (e) that such redemption is pursuant to the mandatory or optional sinking fund, or both, if such be the case, (f) such election by the Issuer to redeem Securities of such series pursuant to provisions contained in this Indenture or the terms of the Securities of such series or a supplemental indenture establishing such series, if such be the case, (g) that interest accrued to, but not including, the date fixed for redemption will be paid as specified in said notice and that on and after said date interest thereon or on the portions thereof to be redeemed will cease to accrue and (h) the applicable conditions to such redemption, if any. In case any Security of a series is to be redeemed in part only the notice of redemption shall state the portion of the principal amount thereof to be redeemed and shall state that on and after the date fixed for redemption, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

The notice of redemption of Securities of any series to be redeemed at the option of the Issuer shall be given by the Issuer or, at the Issuer's written request at least five Business Days (unless a shorter period shall be satisfactory to the Trustee) prior to the delivery of such notice of redemption, by the Trustee for such series in the name and at the expense of the Issuer.

On or prior to 10:00 a.m., New York City time, on the redemption date specified in the notice of redemption given as provided in this Section, the Issuer will deposit with the Trustee or with one or more paying agents (or, if the Issuer is acting as its own paying agent, set aside, segregate and hold in trust as provided in Section 3.4) an amount of money sufficient to redeem on the redemption date all the Securities of such series so called for redemption at the appropriate redemption price, together with accrued interest to, but excluding, the date fixed for redemption. If less than all the outstanding Securities of a series are to be redeemed, the Issuer will deliver to the Trustee at least 30 days prior to the date fixed for redemption (unless a shorter period shall be satisfactory to the Trustee) an Officer's Certificate stating the aggregate principal amount of Securities to be redeemed.

If less than all the Securities of a series are to be redeemed, the Securities to be redeemed shall be selected in the case of Global Securities, in accordance with the process and procedures of the Depositary and, in all other cases, by lot. Securities may be redeemed in part in an amount equal to the minimum authorized denomination for Securities of such series or any integral multiple thereof. In any case where more than one Security of such series is registered in the same name, the Trustee may treat the aggregate principal amount so registered as if it were represented by one Security of such series. The Trustee shall promptly notify the Issuer in writing of the Securities of such series selected for redemption and, in the case of any Securities of such series selected for partial redemption, the principal amount thereof to be redeemed. For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities of any series shall relate, in the case of any Security redeemed or to be redeemed only in part, to the portion of the principal amount of such Security which has been or is to be redeemed.

Section 12.3 Payment of Securities Called for Redemption. If notice of redemption has been given as above provided, the Securities or portions of Securities specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to, but not including, the date fixed for redemption, and on and after said date (unless the Issuer shall default in the payment of such Securities at the redemption price, together with interest accrued to said date) interest on the Securities or portions of Securities so called for redemption shall cease to accrue and, except as provided in Sections 6.5 and 10.4, such Securities shall cease from and after the date fixed for redemption to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the redemption price thereof and unpaid interest to, but not including, the date fixed for redemption. On presentation and surrender of such Securities at a place of payment specified in said notice, said Securities or the specified portions thereof shall be paid and redeemed by the Issuer at the applicable redemption price, together with interest accrued thereon to, but not including, the date fixed for redemption; provided that any payment of interest becoming due on or prior to the date fixed for redemption shall be payable to the Holders of such Securities registered as such on the relevant record date subject to the terms and provisions of Section 2.7 hereof.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal and premium, if any, thereof shall, until paid or duly provided for, bear interest from the date fixed for redemption at the rate of interest or Yield to Maturity (in the case of an Original Discount Security) borne by the Security.

Upon presentation of any Security redeemed in part only at the Corporate Trust Office or such other office or agency of the Issuer as is specified in the notice of redemption with, if the Issuer, the Registrar or the Trustee so requires, due endorsement by, or a written instrument of transfer in form satisfactory to the Issuer, the Registrar and the Trustee duly executed by the Holder thereof or his, her or its attorney duly authorized in writing, the Issuer shall execute and the Trustee shall authenticate and deliver to or on the order of the Holder thereof, at the expense of the Issuer, a new Security or Securities of such series, of authorized denominations, in principal amount equal to the unredeemed portion of the principal of the Security so presented; except that if a Global Security is so surrendered, the Issuer shall execute, and the Trustee shall authenticate and deliver to the Depository for such Global Security, without service charge, a new Global Security in a denomination equal to and in exchange for the unredeemed portion of the principal of the Global Security so surrendered. In the case of a Security providing appropriate space for such notation, at the option of the Holder thereof, the Trustee, in lieu of delivering a new Security or Securities as aforesaid, may make a notation on such Security of the payment of the redeemed portion thereof.

Section 12.4 Exclusion of Certain Securities From Eligibility For Selection For Redemption. Securities shall be excluded from eligibility for selection for redemption if they are identified by registration and certificate number in a written statement signed by an Officer of the Issuer and delivered to the Trustee at least 10 days (unless a shorter period shall be



satisfactory to the Trustee) prior to the last date on which notice of redemption may be given as being owned of record and beneficially by, and not pledged or hypothecated by either (a) the Issuer or (b) an entity specifically identified in such written statement as directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer.

Section 12.5 Mandatory and Optional Sinking Funds. The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a “mandatory sinking fund payment,” and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an “optional sinking fund payment.” The last date on which a sinking fund payment may be made in each year is herein referred to as the “sinking fund payment date.”

In lieu of making all or any part of any mandatory sinking fund payment with respect to any series of Securities in cash, the Issuer may at its option (a) deliver to the Trustee Securities of such series theretofore purchased or otherwise acquired (except upon redemption pursuant to the mandatory sinking fund) by the Issuer or receive credit for Securities of such series (not previously so credited) theretofore purchased or otherwise acquired (except as aforesaid) by the Issuer and delivered to the Trustee for cancellation pursuant to Section 2.10, or (b) receive credit for Securities of such series (not previously so credited) redeemed either at the election of the Issuer pursuant to the terms of such Securities or through the application of permitted optional sinking fund payments pursuant to the terms of such Securities. Securities so delivered or credited shall be received and credited by the Trustee at the sinking fund redemption price specified in such Securities.

On or before the 45th day next preceding each sinking fund payment date for any series, the Issuer will deliver to the Trustee a written statement (which need not contain the statements required by Section 11.5) signed by an Officer of the Issuer (a) specifying the portion of the mandatory sinking fund payment to be satisfied by payment of cash and the portion to be satisfied by delivery and credit of Securities of such series, (b) stating that none of the Securities of such series to be delivered and credited has theretofore been so delivered and credited, (c) stating that no Events of Default with respect to such series have occurred (which have not been waived or cured) and are continuing and (d) stating whether or not the Issuer intends to exercise its right to make an optional sinking fund payment with respect to such series and, if so, specifying the amount of such optional sinking fund payment which the Issuer intends to pay on or before the next succeeding sinking fund payment date. Any Securities of such series to be credited and required to be delivered to the Trustee in order for the Issuer to be entitled to credit therefor as aforesaid which have not theretofore been delivered to the Trustee shall be delivered for cancellation pursuant to Section 2.10 to the Trustee with such written statement (or reasonably promptly thereafter if acceptable to the Trustee). Such written statement shall be irrevocable and upon its receipt by the Trustee the Issuer shall become unconditionally obligated to make the cash payment or payments therein referred to, if any, on or before the next succeeding sinking fund payment date. Failure of the Issuer, on or before any such 45th day, to deliver such written statement and Securities specified in this paragraph, if any, shall not constitute a default but shall constitute, on and as of such date, the irrevocable election of the Issuer (i) that the mandatory sinking fund payment for such series due on the next succeeding sinking fund payment date shall be paid entirely in cash without the option to deliver or credit Securities of such series in respect thereof and (ii) that the Issuer will make no optional sinking fund payment with respect to such series as provided in this Section.

If the sinking fund payment or payments (mandatory or optional or both) made in cash plus any unused balance of any preceding sinking fund payments made in funds shall exceed \$50,000 (or a lesser sum if the Issuer shall so request) with respect to the Securities of any particular series, such funds shall be applied on the next succeeding sinking fund payment date to the redemption of Securities of such series at the sinking fund redemption price together with accrued interest to the date fixed for redemption. If such amount shall be \$50,000 or less and the Issuer makes no such request then it shall be carried over until a sum in excess of \$50,000 is available. Securities shall be selected, in the manner provided in Section 12.2, for redemption on such sinking fund payment date so that a sufficient principal amount of Securities of such series shall absorb said funds, as nearly as may be, and the Trustee shall (if requested in writing by the Issuer) inform the Issuer of the serial numbers of the Securities of such series (or portions thereof) so selected. The Trustee, in the name and at the expense of the Issuer (or the Issuer, if it shall so request the Trustee in writing) shall cause notice of redemption of the Securities of such series to be given in substantially the manner provided in Section 12.2 (and with the effect provided in Section 12.3) for the redemption of Securities of such series in part at the option of the Issuer. The amount of any sinking fund payments not so applied or allocated to the redemption of Securities of such series shall be added to the next cash sinking fund payment and, together with such payment, shall be applied in accordance with the provisions of this Section 12.4. Any and all sinking fund moneys held on the stated maturity date of the Securities of any particular series (or earlier, if such maturity is accelerated), which are not held for the payment or redemption of particular Securities of such series shall be applied, together with other moneys, if necessary, sufficient for the purpose, to the payment of the principal of, premium, if any, and interest on, the Securities of such series at maturity.

On or prior to each sinking fund payment date, the Issuer shall pay to the Trustee in cash or shall otherwise provide for the payment of all interest accrued to, but not including, the date fixed for redemption on Securities to be redeemed on such sinking fund payment date.

The Trustee shall not redeem or cause to be redeemed any Securities of a series with sinking fund moneys or send any notice of redemption of Securities for such series by operation of the sinking fund during the continuance of a default in payment of interest on such Securities or of any Event of Default except that, where the sending of notice of redemption of any Securities shall theretofore have been made, the Trustee shall redeem or cause to be redeemed such Securities, provided that it shall have received from the Issuer a sum sufficient for such redemption. Except as aforesaid, any moneys in the sinking fund for such series at the time when any such default or Event of Default shall occur, and any moneys thereafter paid into the sinking fund, shall, during the continuance of such default or Event of Default, be deemed to have been collected under Article Five and held for the payment of all Securities of such series. In case such Event of Default shall have been waived as provided in Section 5.10 or the default cured on or before the 45th day preceding the sinking fund payment date in any year, such moneys shall thereafter be applied on the next succeeding sinking fund payment date in accordance with this Section to the redemption of such Securities.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the date first written above.

Air Products and Chemicals, Inc.,  
as Issuer

By: /s/ M. Scott Crocco  
Name: M. Scott Crocco  
Title: Executive Vice President and Chief Financial  
Officer

The Bank of New York Mellon Trust Company, N.A.,  
as Trustee

By: /s/ Manjari Purkayastha  
Name: Manjari Purkayastha  
Title: Vice President

[Signature Page to Indenture]

**AIR PRODUCTS AND CHEMICALS, INC.**

\$550,000,000 aggregate principal amount of 1.500% Notes due 2025

\$650,000,000 aggregate principal amount of 1.850% Notes due 2027

\$900,000,000 aggregate principal amount of 2.050% Notes due 2030

\$750,000,000 aggregate principal amount of 2.700% Notes due 2040

\$950,000,000 aggregate principal amount of 2.800% Notes due 2050

Officer's Certificate to the Trustee

The undersigned, M. Scott Crocco, Executive Vice President and Chief Financial Officer of Air Products and Chemicals, Inc. (the "**Company**"), a Delaware corporation, hereby certifies on behalf of the Company pursuant to Sections 2.1, 2.3 and 11.5 of the Indenture (the "**Indenture**") dated as of April 30, 2020, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the "**Trustee**"), in connection with the issuance of \$550,000,000 aggregate principal amount of the Company's 1.500% Notes due 2025 (the "**2025 Notes**"), \$650,000,000 aggregate principal amount of the Company's 1.850% Notes due 2027 (the "**2027 Notes**"), \$900,000,000 aggregate principal amount of the Company's 2.050% Notes due 2030 (the "**2030 Notes**"), \$750,000,000 aggregate principal amount of the Company's 2.700% Notes due 2040 (the "**2040 Notes**") and \$950,000,000 aggregate principal amount of the Company's 2.800% Notes due 2050 (the "**2050 Notes**," and, together with the 2025 Notes, the 2027 Notes, the 2030 Notes and the 2040 Notes, the "**Notes**"), as follows:

1. The Indenture has been duly and validly authorized, executed and delivered by the Company.
2. Attached hereto as Exhibit A is a true, correct and complete specimen of the 2025 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2025 Notes as required by Sections 2.1 and 2.3 of the Indenture.
3. Attached hereto as Exhibit B is a true, correct and complete specimen of the 2027 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2027 Notes as required by Sections 2.1 and 2.3 of the Indenture.
4. Attached hereto as Exhibit C is a true, correct and complete specimen of the 2030 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2030 Notes as required by Sections 2.1 and 2.3 of the Indenture.
5. Attached hereto as Exhibit D is a true, correct and complete specimen of the 2040 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2040 Notes as required by Sections 2.1 and 2.3 of the Indenture.

6. Attached hereto as Exhibit E is a true, correct and complete specimen of the 2050 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2050 Notes as required by Sections 2.1 and 2.3 of the Indenture.
7. The Notes shall be issuable upon original issuance each in the form of Global Securities and in the name of Cede & Co., as nominee of The Depository Trust Company.
8. The Trustee shall initially be appointed as the Paying Agent and Registrar with respect to the Notes.
9. I have read and reviewed (i) the relevant provisions of the Indenture including, but not limited to Sections 2.1, 2.3 and 11.5 of the Indenture and the definitions set forth in the Indenture as to terms used in those sections, setting forth the conditions relating to the authentication and delivery by the Trustee of the Notes; (ii) the resolutions of the Board of Directors relating to issuance and establishing the form of the Notes and the manner in which the terms thereof are to be determined, (iii) the forms of the Notes attached hereto as Exhibit A, Exhibit B, Exhibit C, Exhibit D and Exhibit E, respectively, and (iv) such agreements, certificates of public officials and officers or other representatives of the Company and such other documents, certificates and corporate or other records as I have deemed necessary or appropriate as the basis of the opinion herein expressed. In my opinion, I have made such examination or investigation as is necessary for me to express an informed opinion as to whether the covenants and conditions precedent to the execution and authentication by the Trustee of the Notes have been satisfied. In my opinion, all such covenants and conditions precedent to the issuance by the Company and the authentication and delivery by the Trustee of the Notes, as requested in the Company Order, dated as of the date hereof, pursuant to which the Company has requested that the Trustee authenticate and deliver the Notes, have been complied with in accordance with the terms of the Indenture.

Capitalized terms used herein without definition shall have the respective meanings ascribed to such terms in the Indenture.

*[Signature page follows]*

By: \_\_\_\_\_

Name: M. Scott Crocco

Title: Executive Vice President and  
Chief Financial Officer

Dated: April 30, 2020

*[Signature Page]*

**Form of**  
**1.500% Note due 2025**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION (“DTC” OR THE “DEPOSITARY”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITARY TO A NOMINEE OF THE DEPOSITARY, OR BY A NOMINEE OF THE DEPOSITARY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY, OR BY THE DEPOSITARY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

1.500% Note due 2025

CUSIP [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Dates: April 15 and October 15 of each year, commencing [\*]

Record Dates: The April 1 and October 1 preceding each Interest Payment Date

Interest Rate: 1.500% per annum

Original Issue Date: April 30, 2020

Maturity Date: October 15, 2025

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*] (the “Depository”), as nominee of [\*], or registered assigns, the principal sum of [\*] (\$[\*]) on the Maturity Date specified above or upon earlier



redemption or repayment at [\*] (the "Paying Agent"), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest semi-annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, "Business Day," means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository's procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of a 360-day year of twelve 30-day months.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR TRANSFER, EXCHANGE AND PAYMENT: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:

## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “1.500% Notes due 2025” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to \$550,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes, without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of \$2,000 and additional multiples of \$1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 20 basis points; *plus*, in each case, any accrued and unpaid

interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of such series of Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

“ Comparable Treasury Issue ” means the U.S. Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes (assuming that the Notes to be redeemed matured on the applicable Par Call Date).

“ Comparable Treasury Price ” means, with respect to any redemption date, (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

“ Independent Investment Banker ” means one of Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as selected by the Issuer, and their respective successors, or if each of such firms is unwilling or unable to select the Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Issuer.

“ Par Call Date ” means September 15, 2025.

“ Reference Treasury Dealer ” means each of (i) Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary U.S. Government securities dealer in New York City (a “Primary Treasury Dealer”), the Issuer will substitute for such firm another Primary Treasury Dealer and (ii) up to two additional Primary Treasury Dealers appointed by the Issuer.

“ Reference Treasury Dealer Quotations ” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Independent Investment Banker at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

“ Treasury Rate ” means, with respect to any redemption date: (i) the yield, under the heading that represents the average for the immediately preceding week, appearing in the most recently published statistical release designated “H.15” or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded U.S. Treasury securities adjusted to constant maturity under the caption “Treasury Constant Maturities,” for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the applicable Par Call Date, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue

will be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate will be calculated on the third business day preceding the redemption date.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to \$2,000 in principal amount or an integral multiple of \$1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.



“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer’s Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer’s obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depository notifies the Issuer that it is unwilling or unable to continue as Depository for this Note or if at any time the Depository ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depository within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.

**Form of**  
**1.850% Note due 2027**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION (“DTC” OR THE “DEPOSITARY”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY, OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITORY OR ANOTHER NOMINEE OF THE DEPOSITORY, OR BY THE DEPOSITORY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITORY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITORY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

1.850% Note due 2027

CUSIP [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Dates: May 15 and November 15 of each year, commencing [\*]

Record Dates: The May 1 and November 1 preceding each Interest Payment Date

Interest Rate: 1.850% per annum

Original Issue Date: April 30, 2020

Maturity Date: May 15, 2027

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*] (the “Depository”), as nominee of [\*], or registered assigns, the principal sum of [\*] (\$[\*]) on the Maturity Date specified above or upon earlier

redemption or repayment at [\*] (the "Paying Agent"), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest semi-annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, "Business Day," means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository's procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of a 360-day year of twelve 30-day months.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR TRANSFER, EXCHANGE AND PAYMENT: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:



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**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:

## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “1.850% Notes due 2027” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to \$650,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes, without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of \$2,000 and additional multiples of \$1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 20 basis points; *plus*, in each case, any accrued and unpaid

interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of such series of Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

“ Comparable Treasury Issue ” means the U.S. Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes (assuming that the Notes to be redeemed matured on the applicable Par Call Date).

“ Comparable Treasury Price ” means, with respect to any redemption date, (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

“ Independent Investment Banker ” means one of Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as selected by the Issuer, and their respective successors, or if each of such firms is unwilling or unable to select the Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Issuer.

“ Par Call Date ” means March 15, 2027.

“ Reference Treasury Dealer ” means each of (i) Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary U.S. Government securities dealer in New York City (a “Primary Treasury Dealer”), the Issuer will substitute for such firm another Primary Treasury Dealer and (ii) up to two additional Primary Treasury Dealers appointed by the Issuer.

“ Reference Treasury Dealer Quotations ” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Independent Investment Banker at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

“ Treasury Rate ” means, with respect to any redemption date: (i) the yield, under the heading that represents the average for the immediately preceding week, appearing in the most recently published statistical release designated “H.15” or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded U.S. Treasury securities adjusted to constant maturity under the caption “Treasury Constant Maturities,” for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the applicable Par Call Date, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue

will be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate will be calculated on the third business day preceding the redemption date.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to \$2,000 in principal amount or an integral multiple of \$1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer’s Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer’s obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depository notifies the Issuer that it is unwilling or unable to continue as Depository for this Note or if at any time the Depository ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depository within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

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FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

---

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

---

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

---

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.



**Form of**  
**2.050% Note due 2030**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION (“DTC” OR THE “DEPOSITARY”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITARY TO A NOMINEE OF THE DEPOSITARY, OR BY A NOMINEE OF THE DEPOSITARY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY, OR BY THE DEPOSITARY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

2.050% Note due 2030

CUSIP [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Dates: May 15 and November 15 of each year, commencing [\*]

Record Dates: The May 1 and November 1 preceding each Interest Payment Date

Interest Rate: 2.050% per annum

Original Issue Date: April 30, 2020

Maturity Date: May 15, 2030

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*] (the “Depository”), as nominee of [\*], or registered assigns, the principal sum of [\*] (\$[\*]) on the Maturity Date specified above or upon earlier

redemption or repayment at [\*] (the "Paying Agent"), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest semi-annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, "Business Day," means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository's procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of a 360-day year of twelve 30-day months.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR TRANSFER, EXCHANGE AND PAYMENT: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:

## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “2.050% Notes due 2030” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to \$900,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes, without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of \$2,000 and additional multiples of \$1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 25 basis points; *plus*, in each case, any accrued and unpaid

interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of such series of Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

“ Comparable Treasury Issue ” means the U.S. Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes (assuming that the Notes to be redeemed matured on the applicable Par Call Date).

“ Comparable Treasury Price ” means, with respect to any redemption date, (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

“ Independent Investment Banker ” means one of Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as selected by the Issuer, and their respective successors, or if each of such firms is unwilling or unable to select the Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Issuer.

“ Par Call Date ” means February 15, 2030.

“ Reference Treasury Dealer ” means each of (i) Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary U.S. Government securities dealer in New York City (a “Primary Treasury Dealer”), the Issuer will substitute for such firm another Primary Treasury Dealer and (ii) up to two additional Primary Treasury Dealers appointed by the Issuer.

“ Reference Treasury Dealer Quotations ” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Independent Investment Banker at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

“ Treasury Rate ” means, with respect to any redemption date: (i) the yield, under the heading that represents the average for the immediately preceding week, appearing in the most recently published statistical release designated “H.15” or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded U.S. Treasury securities adjusted to constant maturity under the caption “Treasury Constant Maturities,” for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the applicable Par Call Date, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue



will be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate will be calculated on the third business day preceding the redemption date.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to \$2,000 in principal amount or an integral multiple of \$1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer’s Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer’s obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depository notifies the Issuer that it is unwilling or unable to continue as Depository for this Note or if at any time the Depository ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depository within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

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JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.

**Form of**  
**2.700% Note due 2040**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION (“DTC” OR THE “DEPOSITARY”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY, OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY, OR BY THE DEPOSITORY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

2.700% Note due 2040

CUSIP [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Dates: May 15 and November 15 of each year, commencing [\*]

Record Dates: The May 1 and November 1 preceding each Interest Payment Date

Interest Rate: 2.700% per annum

Original Issue Date: April 30, 2020

Maturity Date: May 15, 2040

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*] (the “Depository”), as nominee of [\*], or registered assigns, the principal sum of [\*] (\$[\*]) on the Maturity Date specified above or upon earlier

redemption or repayment at [\*] (the "Paying Agent"), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest semi-annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, "Business Day," means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository's procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of a 360-day year of twelve 30-day months.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.



This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR TRANSFER, EXCHANGE AND PAYMENT: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A.,  
as Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:

## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “2.700% Notes due 2040” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to \$750,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes, without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of \$2,000 and additional multiples of \$1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 25 basis points; *plus*, in each case, any accrued and unpaid

interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of such series of Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

“ Comparable Treasury Issue ” means the U.S. Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes (assuming that the Notes to be redeemed matured on the applicable Par Call Date).

“ Comparable Treasury Price ” means, with respect to any redemption date, (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

“ Independent Investment Banker ” means one of Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as selected by the Issuer, and their respective successors, or if each of such firms is unwilling or unable to select the Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Issuer.

“ Par Call Date ” means November 15, 2039.

“ Reference Treasury Dealer ” means each of (i) Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary U.S. Government securities dealer in New York City (a “Primary Treasury Dealer”), the Issuer will substitute for such firm another Primary Treasury Dealer and (ii) up to two additional Primary Treasury Dealers appointed by the Issuer.

“ Reference Treasury Dealer Quotations ” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Independent Investment Banker at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

“ Treasury Rate ” means, with respect to any redemption date: (i) the yield, under the heading that represents the average for the immediately preceding week, appearing in the most recently published statistical release designated “H.15” or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded U.S. Treasury securities adjusted to constant maturity under the caption “Treasury Constant Maturities,” for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the applicable Par Call Date, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue

will be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate will be calculated on the third business day preceding the redemption date.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to \$2,000 in principal amount or an integral multiple of \$1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer’s Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer’s obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depository notifies the Issuer that it is unwilling or unable to continue as Depository for this Note or if at any time the Depository ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depository within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.



The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.

**Form of**  
**2.800% Note due 2050**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY, A NEW YORK CORPORATION (“DTC” OR THE “DEPOSITARY”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITORY TO A NOMINEE OF THE DEPOSITORY, OR BY A NOMINEE OF THE DEPOSITORY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY, OR BY THE DEPOSITORY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

2.800% Note due 2050

CUSIP [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Dates: May 15 and November 15 of each year, commencing [\*]

Record Dates: The May 1 and November 1 preceding each Interest Payment Date

Interest Rate: 2.800% per annum

Original Issue Date: April 30, 2020

Maturity Date: May 15, 2050

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*] (the “Depository”), as nominee of [\*], or registered assigns, the principal sum of [\*] (\$[\*]) on the Maturity Date specified above or upon earlier

redemption or repayment at [\*] (the "Paying Agent"), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest semi-annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, "Business Day," means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository's procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of a 360-day year of twelve 30-day months.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR TRANSFER, EXCHANGE AND PAYMENT: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

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**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:



## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “2.800% Notes due 2050” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to \$950,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes, without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of \$2,000 and additional multiples of \$1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus 25 basis points; *plus*, in each case, any accrued and unpaid

interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of such series of Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date.

“ Comparable Treasury Issue ” means the U.S. Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date) that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes (assuming that the Notes to be redeemed matured on the applicable Par Call Date).

“ Comparable Treasury Price ” means, with respect to any redemption date, (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

“ Independent Investment Banker ” means one of Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC, as selected by the Issuer, and their respective successors, or if each of such firms is unwilling or unable to select the Comparable Treasury Issue, an independent investment banking institution of national standing appointed by the Issuer.

“ Par Call Date ” means November 15, 2049.

“ Reference Treasury Dealer ” means each of (i) Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC and their respective successors; provided, however, that if any of the foregoing shall cease to be a primary U.S. Government securities dealer in New York City (a “Primary Treasury Dealer”), the Issuer will substitute for such firm another Primary Treasury Dealer and (ii) up to two additional Primary Treasury Dealers appointed by the Issuer.

“ Reference Treasury Dealer Quotations ” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Independent Investment Banker at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

“ Treasury Rate ” means, with respect to any redemption date: (i) the yield, under the heading that represents the average for the immediately preceding week, appearing in the most recently published statistical release designated “H.15” or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded U.S. Treasury securities adjusted to constant maturity under the caption “Treasury Constant Maturities,” for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the applicable Par Call Date, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue

will be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate will be calculated on the third business day preceding the redemption date.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to \$2,000 or an integral multiple of \$1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to \$2,000 in principal amount or an integral multiple of \$1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer’s Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer’s obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depository notifies the Issuer that it is unwilling or unable to continue as Depository for this Note or if at any time the Depository ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depository within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.

**AIR PRODUCTS AND CHEMICALS, INC.**

€500,000,000 aggregate principal amount of 0.500% Notes due 2028

€500,000,000 aggregate principal amount of 0.800% Notes due 2032

Officer's Certificate to the Trustee

The undersigned, M. Scott Crocco, Executive Vice President and Chief Financial Officer of Air Products and Chemicals, Inc. (the “**Company**”), a Delaware corporation, hereby certifies on behalf of the Company pursuant to Sections 2.1, 2.3 and 11.5 of the Indenture (the “**Indenture**”), dated as of April 30, 2020, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “**Trustee**”), in connection with the issuance of €500,000,000 aggregate principal amount of the Company's 0.500% Notes due 2028 (the “**2028 Notes**”) and €500,000,000 aggregate principal amount of the Company's 0.800% Notes due 2032 (the “**2032 Notes**” and together with the 2028 Notes, the “**Notes**”), as follows:

1. The Indenture has been duly and validly authorized, executed and delivered by the Company.
2. Attached hereto as Exhibit A is a true, correct and complete specimen of the 2028 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2028 Notes as required by Sections 2.1 and 2.3 of the Indenture.
3. Attached hereto as Exhibit B is a true, correct and complete specimen of the 2032 Notes, which complies with the resolutions of the Board of Directors referred to below and which establishes the form and terms of the 2032 Notes as required by Sections 2.1 and 2.3 of the Indenture.
4. The Notes shall be issuable upon original issuance each in the form of Global Securities and in the name of The Bank of New York Depository (Nominees) Limited, as nominee of The Bank of New York Mellon, London Branch, a common depository for Euroclear Bank SA/NV and Clearstream Banking S.A.
5. The Trustee shall initially be appointed as the Registrar with respect to the Notes. The Bank of New York Mellon, London Branch shall initially be appointed as the Paying Agent with respect to the Notes.
6. [ ] shall initially be appointed as the Exchange Rate Agent.
7. I have read and reviewed (i) the relevant provisions of the Indenture including, but not limited to Sections 2.1, 2.3 and 11.5 of the Indenture and the definitions set forth in the Indenture as to terms used in those sections, setting forth the conditions relating to the authentication and delivery by the Trustee of the Notes; (ii) the resolutions of the Board of Directors relating to issuance and establishing the form of the Notes and the manner in which the terms thereof are to be determined, (iii) the forms of the Notes attached hereto as Exhibit A and Exhibit B, respectively,



and (iv) such agreements, certificates of public officials and officers or other representatives of the Company and such other documents, certificates and corporate or other records as I have deemed necessary or appropriate as the basis of the opinion herein expressed. In my opinion, I have made such examination or investigation as is necessary for me to express an informed opinion as to whether the covenants and conditions precedent to the execution and authentication by the Trustee of the Notes have been satisfied. In my opinion, all such covenants and conditions precedent to the issuance by the Company and the authentication and delivery by the Trustee of the Notes, as requested in the Company Order, dated as of the date hereof, pursuant to which the Company has requested that the Trustee authenticate and deliver the Notes, have been complied with in accordance with the terms of the Indenture.

Capitalized terms used herein without definition shall have the respective meanings ascribed to such terms in the Indenture.

*[Signature page follows]*

By: \_\_\_\_\_  
Name: M. Scott Crocco  
Title: Executive Vice President and  
Chief Financial Officer

Dated: May 5, 2020

*[Signature Page]*

**Form of**  
**0.500% Note due 2028**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR BANK, SA/NV, AS OPERATOR OF THE EUROCLEAR SYSTEM (“EUROCLEAR”), OR CLEARSTREAM BANKING S.A. (“CLEARSTREAM” AND, TOGETHER WITH EUROCLEAR, “EUROCLEAR/CLEARSTREAM”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR/CLEARSTREAM (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR/CLEARSTREAM), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY EUROCLEAR/CLEARSTREAM TO A NOMINEE OF EUROCLEAR/CLEARSTREAM, OR BY A NOMINEE OF EUROCLEAR/CLEARSTREAM TO EUROCLEAR/CLEARSTREAM OR ANOTHER NOMINEE OF EUROCLEAR/CLEARSTREAM, OR BY EUROCLEAR/CLEARSTREAM OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

0.500% Note due 2028

CUSIP [\*]  
Common Code [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Date: May 5 of each year, commencing [\*]

Record Date: The 15th calendar day preceding each Interest Payment Date

Interest Rate: 0.500% per annum

Original Issue Date: May 5, 2020

Maturity Date: May 5, 2028

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*], as nominee of [\*], a common depository for Euroclear Bank SA/NV and Clearstream Banking S.A. (the “Depository”), or registered assigns, the principal sum of [\*] euros (€[\*]) on the Maturity Date specified above or upon earlier redemption or repayment at [\*] (the “Paying Agent”), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest, or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, “Business Day” means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York or London, England, and on which the Trans-European Automated Real-time Gross Settlement Express Transfer system (the TARGET2 System) or any successor thereto, is open.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository’s procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of the actual number of days in the period for which interest is being calculated and the actual number of days from and including the last date on which interest was paid on the Notes (or from May 5, 2020, if no interest has been paid on the Notes), to but excluding the next scheduled Interest Payment Date. This payment convention is referred to as ACTUAL/ACTUAL (ICMA) as defined in the rulebook of the International Capital Markets Association.

Pursuant to Section 2.3(12) of the Indenture, payments of principal, interest and premium, if any, of the Notes are payable in euros; provided, however, with the sole exception that if, on or after [\*], the euro is unavailable to the Issuer due to the imposition of exchange controls or other circumstances beyond the control of the Issuer or if the euro is no longer being used by the then-member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the Notes will be made in U.S. dollars until the euro is again available to the Issuer or so used. In such circumstances, the amount payable on any date in euros will be converted into U.S. dollars in accordance with Sections 2.13(e) and (f) of the Indenture. Any payment in respect of the Notes so made in U.S. dollars will not constitute an Event of Default under the Notes or the Indenture. Section 2.13(b) of the Indenture shall not apply with respect to the Notes.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR PAYMENT: THE BANK OF NEW YORK MELLON, LONDON BRANCH

AGENCY FOR TRANSFER: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

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**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:



## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “0.500% Notes due 2028” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to €500,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of €100,000 and additional multiples of €1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on an annual basis (ACTUAL/ACTUAL (ICMA)) using a discount rate equal to the Comparable Government Bond Rate plus 20 basis points; *plus*, in each case, any

accrued and unpaid interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date. The redemption price shall be calculated by the Company.

“ Comparable Government Bond ” means, in relation to any Comparable Government Bond Rate calculation, at the discretion of an independent investment bank selected by the Issuer, a German *Bundesanleihe* security whose maturity is closest to the maturity of the Notes being redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date), or if such independent investment bank in its discretion considers that such similar bond is not in issue, such other German *Bundesanleihe* security as such independent investment bank may, with the advice of three brokers of, or market makers in, German *Bundesanleihe* securities selected by such independent investment bank, determine to be appropriate for determining the Comparable Government Bond Rate.

“ Comparable Government Bond Rate ” means the price, expressed as a percentage (rounded to three decimal places, 0.0005 being rounded upwards), at which the gross redemption yield on the Notes being redeemed, if they were to be purchased at such price prior to the applicable Par Call Date on the third business day prior to the date fixed for redemption, would be equal to the gross redemption yield on such business day of the Comparable Government Bond on the basis of the middle market price of the Comparable Government Bond prevailing at 11:00 a.m. (London time) on such business day as determined by an independent investment bank selected by the Issuer.

“ Par Call Date ” means February 5, 2028.

#### ***Redemption for Tax Reasons***

If, as a result of any change in, or amendment to, the laws of the United States or the official interpretation thereof that is announced or becomes effective on or after April 28, 2020, the Issuer becomes or, based upon a written opinion of nationally recognized independent counsel selected by the Issuer, there is a substantial probability that the Issuer will become obligated within 90 days to pay additional amounts as described below with respect to the Notes, then the Issuer may, at any time and at its option, redeem, in whole, but not in part, the Notes on not less than 30 nor more than 60 days' prior notice, at a redemption price equal to 100% of the principal amount of the Notes being redeemed, together with accrued and unpaid interest on the Notes to, but excluding, the date fixed for redemption.

The Issuer will, subject to the exceptions and limitations set forth below, pay as additional interest on the Notes such additional amounts as are necessary in order that the net payment by the Issuer or a paying agent of the principal of and interest on the Notes to a holder that is not a United States person (as defined below), after withholding or deduction for any present or future tax, assessment or other governmental charge imposed by the United States or a taxing authority in the United States, will not be less than the amount provided in the Notes to be then due and payable; provided, however, that the foregoing obligation to pay additional amounts shall not apply:

- (1) to any tax, assessment or other governmental charge that would not have been imposed but for the holder, a fiduciary, settlor, beneficiary, member or shareholder of the holder, or a person holding a power over an estate or trust administered by a fiduciary holder, being treated as:
  - (a) being or having been engaged in a trade or business in the United States, or having or having had a permanent establishment in the United States;
  - (b) having a current or former connection with the United States (other than a connection arising solely as a result of the ownership of the Notes, the receipt of any payment in respect of the Notes or the enforcement of any rights under the Indenture), including being or having been a citizen or resident of the United States;
  - (c) being or having been a personal holding company, a passive foreign investment company or a controlled foreign corporation for U.S. federal income tax purposes, a foreign tax exempt organization, or a corporation that has accumulated earnings to avoid United States federal income tax;
  - (d) being or having been a “10-percent shareholder” of the Issuer, as defined in section 871(h)(3) of the United States Internal Revenue Code of 1986, as amended (the “Code”) or any successor provision; or
  - (e) being a bank receiving payments on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business, within the meaning of section 881(c)(3) of the Code or any successor provision;
- (2) to any holder that is not the sole beneficial owner of the Notes, or a portion of the Notes, or that is a fiduciary, partnership or limited liability company, but only to the extent that a beneficiary or settlor with respect to the fiduciary, a beneficial owner or member of the partnership or limited liability company would not have been entitled to the payment of an additional amount had the beneficiary, settlor, beneficial owner or member received directly its beneficial or distributive share of the payment;
- (3) to any tax, assessment or other governmental charge that would not have been imposed but for the failure of the holder or beneficial owner to comply with certification, identification or information reporting requirements concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of the Notes, if compliance is required by statute, by regulation of the United States or any taxing authority therein or by an applicable income tax treaty to which the United States is a party as a precondition to exemption from such tax, assessment or other governmental charge;
- (4) to any tax, assessment or other governmental charge that is imposed otherwise than by withholding from the payment;

- (5) to any tax, assessment or other governmental charge that would not have been imposed but for a change in law, regulation, or administrative or judicial interpretation that becomes effective more than 15 days after the payment becomes due or is duly provided for, whichever occurs later;
- (6) to any estate, inheritance, gift, sales, excise, transfer, wealth, capital gains or personal property tax or similar tax, assessment or other governmental charge;
- (7) to any tax, assessment or other governmental charge required to be withheld by any paying agent from any payment of principal of or interest on any Note, if such payment can be made without such withholding by any other paying agent;
- (8) to any tax, assessment or other governmental charge that would not have been imposed but for the presentation by the holder of any Note, where presentation is required, for payment on a date more than 30 days after the date on which payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;
- (9) to any tax, assessment or other governmental charge required to be withheld or deducted that is imposed on a payment pursuant to Sections 1471 through 1474 of the Code (or any amended or successor version of such Sections that is substantively comparable and not materially more onerous to comply with), any Treasury regulations promulgated thereunder, or any other official interpretations thereof, any agreement (including any intergovernmental agreement) entered into in connection therewith, or any law, regulation or other official guidance enacted in any jurisdiction implementing the Foreign Account Tax Compliance Act (“FACTA”) or an intergovernmental agreement in respect of FATCA; or
- (10) in the case of any combination of items (1), (2), (3), (4), (5), (6), (7), (8), and (9).

Except as specifically provided above, the Issuer will not be required to pay additional amounts in respect of any tax, assessment or other governmental charge.

For the purposes of this “Redemption for Tax Reasons” section, “United States” means the United States of America, any state thereof, and the District of Columbia, and the term “United States person” means (i) any individual who is a citizen or resident of the United States for U.S. federal income tax purposes, (ii) a corporation, partnership or other entity created or organized in or under the laws of the United States, any state thereof or the District of Columbia (other than a partnership that is not treated as a United States person for U.S. federal income tax purposes) or treated as a domestic corporation under Section 7874(b) of the Code, (iii) any estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) any trust if a U.S. court can exercise primary supervision over the administration of the trust and one or more United States persons can control all substantial trust decisions, or if a valid election is in place to treat the trust as a United States person.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to €100,000 or an integral multiple of €1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to €100,000 in principal amount or an integral multiple of €1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the

Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer's Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer's obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depositary notifies the Issuer that it is unwilling or unable to continue as Depositary for this Note or if at any time the Depositary ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depositary within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose

of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary. Neither the Trustee nor the Paying Agent shall act as the Exchange Rate Agent or have any responsibility for effecting any foreign currency conversions or calculations hereunder.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.



ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.

**Form of**  
**0.800% Note due 2032**

[UNLESS THIS GLOBAL SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR BANK, SA/NV, AS OPERATOR OF THE EUROCLEAR SYSTEM (“EUROCLEAR”), OR CLEARSTREAM BANKING S.A. (“CLEARSTREAM” AND, TOGETHER WITH EUROCLEAR, “EUROCLEAR/CLEARSTREAM”), TO THE ISSUER OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF [\*] OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR/CLEARSTREAM (AND ANY PAYMENT IS MADE TO [\*] OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF EUROCLEAR/CLEARSTREAM), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, [\*], HAS AN INTEREST HEREIN.]

[UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR CERTIFICATES IN DEFINITIVE REGISTERED FORM, THIS GLOBAL SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY EUROCLEAR/CLEARSTREAM TO A NOMINEE OF EUROCLEAR/CLEARSTREAM, OR BY A NOMINEE OF EUROCLEAR/CLEARSTREAM TO EUROCLEAR/CLEARSTREAM OR ANOTHER NOMINEE OF EUROCLEAR/CLEARSTREAM, OR BY EUROCLEAR/CLEARSTREAM OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR TO A NOMINEE OF SUCH SUCCESSOR DEPOSITARY.]

[THIS SECURITY IS A GLOBAL SECURITY WITHIN THE MEANING OF THE INDENTURE HEREINAFTER REFERRED TO AND IS REGISTERED IN THE NAME OF A DEPOSITARY OR A NOMINEE THEREOF. THIS SECURITY MAY NOT BE EXCHANGED IN WHOLE OR IN PART FOR A SECURITY REGISTERED, AND NO TRANSFER OF THIS SECURITY IN WHOLE OR IN PART MAY BE REGISTERED, IN THE NAME OF ANY PERSON OTHER THAN SUCH DEPOSITARY OR A NOMINEE THEREOF, EXCEPT IN THE LIMITED CIRCUMSTANCES DESCRIBED IN THE INDENTURE.]

**AIR PRODUCTS AND CHEMICALS, INC.**

0.800% Note due 2032

CUSIP [\*]  
Common Code [\*]  
ISIN [\*]

Certificate No. [\*]

Interest Payment Date: May 5 of each year, commencing [\*]

Record Date: The 15th calendar day preceding each Interest Payment Date

Interest Rate: 0.800% per annum

Original Issue Date: May 5, 2020  
2032

Maturity Date: May 5,

AIR PRODUCTS AND CHEMICALS, INC., a Delaware corporation (the “Issuer”), for value received, hereby promises to pay to [\*], as nominee of [\*], a common depository for Euroclear Bank SA/NV and Clearstream Banking S.A. (the “Depository”), or registered assigns, the principal sum of [\*] euros (€[\*]) on the Maturity Date specified above or upon earlier redemption or repayment at [\*] (the “Paying Agent”), as Paying Agent, currently located at [\*], or such other location or locations as may be provided for pursuant to the Indenture referred to herein, in such coin, currency or currency unit specified above as at the time of payment shall be legal tender for the payment of public and private debts, and to pay interest annually on the Interest Payment Date in each year and on the Maturity Date or upon earlier redemption or repayment; commencing with the first Interest Payment Date following the Original Issue Date specified above on said principal sum at the Interest Rate specified above from the most recent date to which interest has been paid or duly provided for, or, if no interest has been paid or duly provided for, from the Original Issue Date, until the principal hereof becomes due and payable; provided, however, that any payment of principal, interest, or premium, if any, to be made on an Interest Payment Date, on the Maturity Date or on a date fixed for redemption or repayment which is not a Business Day (as hereinafter defined) shall be made on the next succeeding Business Day with the same force and effect as if made on the Interest Payment Date, on the Maturity Date or on the date fixed for redemption or repayment, as the case may be, and no additional interest shall accrue as a result of such delayed payment. For purposes of this Note, “Business Day” means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in New York, New York or London, England, and on which the Trans-European Automated Real-time Gross Settlement Express Transfer system (the TARGET2 System) or any successor thereto, is open.

The interest so payable, and punctually paid or duly provided for, on any Interest Payment Date will be paid to the person in whose name this Note (or one or more predecessor Notes) is registered at the close of business on the Record Date (whether or not a Business Day) immediately preceding such Interest Payment Date and interest payable on the Maturity Date or upon earlier redemption or repayment will be payable to the person to whom principal is payable, except that, if this Note is issued between a Record Date and the initial Interest Payment Date relating to such Record Date, interest for the period beginning on the Original Issue Date and ending on such initial Interest Payment Date shall be paid to the person to whom this Note shall have been originally issued. Payment of principal, interest and premium, if any, on this Note will be made, if at maturity or upon earlier redemption or repayment, on the Maturity Date or the date fixed for redemption or repayment, as applicable, upon surrender of this Note at the office of the Paying Agent. All such payments shall be made in immediately available funds, provided that this Note is presented to the Paying Agent in time for the Trustee to make such payments in such funds in accordance with its normal procedures. Payment of interest on this Note (other than interest paid on the Maturity Date or upon earlier redemption or repayment) will be made by wire transfer to the person entitled thereto appearing on the register for the Notes on the applicable Record Date; provided that such holder shall have designated such account by written notice to the Trustee no later than the Record Date preceding the applicable Interest Payment Date. Notwithstanding the foregoing, payments of principal, interest and premium, if any, on Global Securities shall be made in accordance with the Depository’s procedures. Any interest not punctually paid or duly provided for shall be payable as provided in the Indenture referred to on the reverse hereof.

Interest will be computed on the basis of the actual number of days in the period for which interest is being calculated and the actual number of days from and including the last date on which interest was paid on the Notes (or from May 5, 2020, if no interest has been paid on the Notes), to but excluding the next scheduled Interest Payment Date. This payment convention is referred to as ACTUAL/ACTUAL (ICMA) as defined in the rulebook of the International Capital Markets Association.

Pursuant to Section 2.3(12) of the Indenture, payments of principal, interest and premium, if any, of the Notes are payable in euros; provided, however, with the sole exception that if, on or after [\*], the euro is unavailable to the Issuer due to the imposition of exchange controls or other circumstances beyond the control of the Issuer or if the euro is no longer being used by the then-member states of the European Monetary Union that have adopted the euro as their currency or for the settlement of transactions by public institutions of or within the international banking community, then all payments in respect of the Notes will be made in U.S. dollars until the euro is again available to the Issuer or so used. In such circumstances, the amount payable on any date in euros will be converted into U.S. dollars in accordance with Sections 2.13(e) and (f) of the Indenture. Any payment in respect of the Notes so made in U.S. dollars will not constitute an Event of Default under the Notes or the Indenture. Section 2.13(b) of the Indenture shall not apply with respect to the Notes.

REFERENCE IS HEREBY MADE TO THE FURTHER PROVISIONS OF THIS NOTE SET FORTH ON THE REVERSE HEREOF, WHICH FURTHER PROVISIONS SHALL HAVE THE SAME EFFECT AS THOUGH FULLY SET FORTH AT THIS PLACE.

This Note shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been signed by or on behalf of the Trustee under the Indenture referred to on the reverse hereof.

AGENCY FOR PAYMENT: THE BANK OF NEW YORK MELLON, LONDON BRANCH

AGENCY FOR TRANSFER: THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.

IN WITNESS WHEREOF, the Issuer has caused this instrument to be signed in its name by its duly authorized officers.

Dated:

**AIR PRODUCTS AND CHEMICALS, INC.**

By: \_\_\_\_\_  
Name:

**TRUSTEE'S CERTIFICATE OF AUTHENTICATION**

This is one of the Securities of the series designated therein referred to in the within-mentioned Indenture.

**The Bank of New York Mellon Trust Company, N.A., as  
Trustee**

By: \_\_\_\_\_  
Authorized Signatory

Date of authentication:

## REVERSE OF NOTE

This Note is one of a duly authorized issue of a series of notes of the Issuer (hereinafter called the “Securities”) of the series hereinafter specified, all issued or to be issued under and pursuant to an indenture dated as of April 30, 2020 (the “Indenture”), duly executed and delivered by the Issuer to The Bank of New York Mellon Trust Company, N.A., as trustee (the “Trustee”), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Issuer and the holders (the words “holders” or “holder” meaning the registered holders or registered holder of the Securities). The Securities may be issued in one or more series, which different series (and which securities issued within each series) may be issued in various aggregate principal amounts, may mature at different times, may bear interest (if any) at different rates, may be subject to different redemption or repayment provisions (if any), may be subject to different sinking fund or analogous provisions (if any), may be subject to different Events of Default (as defined in the Indenture) and may otherwise vary as in the Indenture provided. This Note is one of a series designated as “0.800% Notes due 2032” (the “Notes”) of the Issuer, initially limited in aggregate principal amount to €500,000,000, subject to the right of the Issuer to issue unlimited additional Securities under the Indenture having the same term as the Notes without the consent of the holders of any Securities; provided that no additional Notes having such similar terms may be issued if an Event of Default has occurred and is continuing with respect to the Notes or if such additional Notes will not be fungible with the previously issued Notes for federal income tax purposes.

This Note will constitute part of the senior debt of the Issuer and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Issuer. This Note will be issuable in fully registered form in denominations of €100,000 and additional multiples of €1,000.

In case an Event of Default with respect to the Notes shall have occurred and be continuing, the principal hereof may be declared, and upon such declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

### **Optional Redemption**

At the Issuer’s option, the Notes may be redeemed, in whole or in part, upon mailing a notice of such redemption not less than 15 days nor more than 60 days prior to the date fixed for redemption to the holders of the Notes at their last registered addresses, all as provided in the Indenture.

If the Issuer redeems all or any part of the Notes prior to the applicable Par Call Date (as defined below), it will pay a redemption price equal to the greater of: (i) 100% of the principal amount of the Notes being redeemed; or (ii) the sum of the present values of the remaining scheduled payments of principal and interest of the Notes being redeemed, that would be due if such series of Notes matured on the applicable Par Call Date (in each case, not including the amount, if any, of accrued and unpaid interest to, but excluding, the redemption date) discounted to the redemption date on an annual basis (ACTUAL/ACTUAL (ICMA)) using a discount rate equal to the Comparable Government Bond Rate plus 20 basis points; *plus*, in each case, any



accrued and unpaid interest to, but excluding, the redemption date. If the Issuer redeems all or any part of the Notes on or after the applicable Par Call Date, the Issuer will pay a redemption price equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest to, but excluding, the redemption date. The redemption price shall be calculated by the Company.

“ Comparable Government Bond ” means, in relation to any Comparable Government Bond Rate calculation, at the discretion of an independent investment bank selected by the Issuer, a German *Bundesanleihe* security whose maturity is closest to the maturity of the Notes being redeemed (assuming that the Notes to be redeemed matured on the applicable Par Call Date), or if such independent investment bank in its discretion considers that such similar bond is not in issue, such other German *Bundesanleihe* security as such independent investment bank may, with the advice of three brokers of, or market makers in, German *Bundesanleihe* securities selected by such independent investment bank, determine to be appropriate for determining the Comparable Government Bond Rate.

“ Comparable Government Bond Rate ” means the price, expressed as a percentage (rounded to three decimal places, 0.0005 being rounded upwards), at which the gross redemption yield on the Notes being redeemed, if they were to be purchased at such price prior to the applicable Par Call Date on the third business day prior to the date fixed for redemption, would be equal to the gross redemption yield on such business day of the Comparable Government Bond on the basis of the middle market price of the Comparable Government Bond prevailing at 11:00 a.m. (London time) on such business day as determined by an independent investment bank selected by the Issuer.

“ Par Call Date ” means February 5, 2032.

#### ***Redemption for Tax Reasons***

If, as a result of any change in, or amendment to, the laws of the United States or the official interpretation thereof that is announced or becomes effective on or after April 28, 2020, the Issuer becomes or, based upon a written opinion of nationally recognized independent counsel selected by the Issuer, there is a substantial probability that the Issuer will become obligated within 90 days to pay additional amounts as described below with respect to the Notes, then the Issuer may, at any time and at its option, redeem, in whole, but not in part, the Notes on not less than 30 nor more than 60 days' prior notice, at a redemption price equal to 100% of the principal amount of the Notes being redeemed, together with accrued and unpaid interest on the Notes to, but excluding, the date fixed for redemption.

The Issuer will, subject to the exceptions and limitations set forth below, pay as additional interest on the Notes such additional amounts as are necessary in order that the net payment by the Issuer or a paying agent of the principal of and interest on the Notes to a holder that is not a United States person (as defined below), after withholding or deduction for any present or future tax, assessment or other governmental charge imposed by the United States or a taxing authority in the United States, will not be less than the amount provided in the Notes to be then due and payable; provided, however, that the foregoing obligation to pay additional amounts shall not apply:

- (1) to any tax, assessment or other governmental charge that would not have been imposed but for the holder, a fiduciary, settlor, beneficiary, member or shareholder of the holder, or a person holding a power over an estate or trust administered by a fiduciary holder, being treated as:
  - (a) being or having been engaged in a trade or business in the United States, or having or having had a permanent establishment in the United States;
  - (b) having a current or former connection with the United States (other than a connection arising solely as a result of the ownership of the Notes, the receipt of any payment in respect of the Notes or the enforcement of any rights under the Indenture), including being or having been a citizen or resident of the United States;
  - (c) being or having been a personal holding company, a passive foreign investment company or a controlled foreign corporation for U.S. federal income tax purposes, a foreign tax exempt organization, or a corporation that has accumulated earnings to avoid United States federal income tax;
  - (d) being or having been a “10-percent shareholder” of the Issuer, as defined in section 871(h)(3) of the United States Internal Revenue Code of 1986, as amended (the “Code”) or any successor provision; or
  - (e) being a bank receiving payments on an extension of credit made pursuant to a loan agreement entered into in the ordinary course of its trade or business, within the meaning of section 881(c)(3) of the Code or any successor provision;
- (2) to any holder that is not the sole beneficial owner of the Notes, or a portion of the Notes, or that is a fiduciary, partnership or limited liability company, but only to the extent that a beneficiary or settlor with respect to the fiduciary, a beneficial owner or member of the partnership or limited liability company would not have been entitled to the payment of an additional amount had the beneficiary, settlor, beneficial owner or member received directly its beneficial or distributive share of the payment;
- (3) to any tax, assessment or other governmental charge that would not have been imposed but for the failure of the holder or beneficial owner to comply with certification, identification or information reporting requirements concerning the nationality, residence, identity or connection with the United States of the holder or beneficial owner of the Notes, if compliance is required by statute, by regulation of the United States or any taxing authority therein or by an applicable income tax treaty to which the United States is a party as a precondition to exemption from such tax, assessment or other governmental charge;
- (4) to any tax, assessment or other governmental charge that is imposed otherwise than by withholding from the payment;

- (5) to any tax, assessment or other governmental charge that would not have been imposed but for a change in law, regulation, or administrative or judicial interpretation that becomes effective more than 15 days after the payment becomes due or is duly provided for, whichever occurs later;
- (6) to any estate, inheritance, gift, sales, excise, transfer, wealth, capital gains or personal property tax or similar tax, assessment or other governmental charge;
- (7) to any tax, assessment or other governmental charge required to be withheld by any paying agent from any payment of principal of or interest on any Note, if such payment can be made without such withholding by any other paying agent;
- (8) to any tax, assessment or other governmental charge that would not have been imposed but for the presentation by the holder of any Note, where presentation is required, for payment on a date more than 30 days after the date on which payment became due and payable or the date on which payment thereof is duly provided for, whichever occurs later;
- (9) to any tax, assessment or other governmental charge required to be withheld or deducted that is imposed on a payment pursuant to Sections 1471 through 1474 of the Code (or any amended or successor version of such Sections that is substantively comparable and not materially more onerous to comply with), any Treasury regulations promulgated thereunder, or any other official interpretations thereof, any agreement (including any intergovernmental agreement) entered into in connection therewith, or any law, regulation or other official guidance enacted in any jurisdiction implementing the Foreign Account Tax Compliance Act (“FACTA”) or an intergovernmental agreement in respect of FATCA; or
- (10) in the case of any combination of items (1), (2), (3), (4), (5), (6), (7), (8), and (9).

Except as specifically provided above, the Issuer will not be required to pay additional amounts in respect of any tax, assessment or other governmental charge.

For the purposes of this “Redemption for Tax Reasons” section, “United States” means the United States of America, any state thereof, and the District of Columbia, and the term “United States person” means (i) any individual who is a citizen or resident of the United States for U.S. federal income tax purposes, (ii) a corporation, partnership or other entity created or organized in or under the laws of the United States, any state thereof or the District of Columbia (other than a partnership that is not treated as a United States person for U.S. federal income tax purposes) or treated as a domestic corporation under Section 7874(b) of the Code, (iii) any estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) any trust if a U.S. court can exercise primary supervision over the administration of the trust and one or more United States persons can control all substantial trust decisions, or if a valid election is in place to treat the trust as a United States person.

### ***Change of Control Offer***

Upon the occurrence of a Change of Control Triggering Event, the Issuer will be required to make an offer (a “Change of Control Offer”) to each holder of Notes to repurchase all or any part (equal to €100,000 or an integral multiple of €1,000 thereof) of such holder’s Notes at a purchase price equal to 101% of the aggregate principal amount thereof, together with accrued and unpaid interest thereon to the date of repurchase (the “Change of Control Payment”). Within 30 days following any Change of Control Triggering Event, the Issuer will be required to mail (or otherwise transmit in accordance with DTC procedures) a notice to each holder stating:

- (1) that the Change of Control Offer is being made pursuant to the covenant entitled “Change of Control and Ratings Decline”;
- (2) the purchase price and the purchase date, which shall be no earlier than 30 days nor later than 45 days after the date such notice is mailed (the “Change of Control Payment Date”);
- (3) that any Notes not tendered will continue to accrue interest in accordance with the terms of the Indenture and this Note;
- (4) that, unless the Issuer defaults in the payment of the Change of Control Payment, all Notes accepted for payment pursuant to the Change of Control Offer will cease to accrue interest after the Change of Control Payment Date;
- (5) that holders will be entitled to withdraw their election if the paying agent receives, not later than the close of business on the fifth business day preceding the Change of Control Payment Date, a facsimile transmission or letter setting forth the name of the holder, the principal amount of Notes delivered for purchase, and a statement that such holder is unconditionally withdrawing its election to have such Notes purchased;
- (6) that holders whose Notes are being purchased only in part will be issued new Notes equal in principal amount to the unpurchased portion of the Notes surrendered, which unpurchased portion must be equal to €100,000 in principal amount or an integral multiple of €1,000 in excess thereof; and
- (7) any other information material to such holder’s decision to tender Notes.

The Issuer will not be required to make a Change of Control Offer following a Change of Control Triggering Event if a third party makes a Change of Control Offer in the manner, at the times and otherwise in compliance with the requirements set forth in the Notes applicable to a Change of Control Offer made by the Issuer and purchases all Notes validly tendered and not withdrawn under such Change of Control Offer. Notwithstanding anything to the contrary herein, a Change of Control Offer may be made in advance of a Change of Control Triggering Event, conditional upon such Change of Control, if a definitive agreement is in place for the Change of Control at the time of making the Change of Control Offer.

“Capital Stock” means any and all shares, interests, participations, rights or other equivalents, however designated, of corporate stock or partnership or membership interests, whether common or preferred.

“Change of Control” means the occurrence of any one of the following:

- (1) the consummation of any transaction (including without limitation, any merger or consolidation) the result of which is that any person (including any “person” (as that term is used in Section 13(d)(3) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) other than the Issuer or one of its subsidiaries) becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act), directly or indirectly, of more than 50% of the Issuer’s outstanding Voting Stock, measured by voting power rather than number of shares; or
- (2) the adoption of a plan relating to the liquidation or dissolution of the Issuer.

Notwithstanding the foregoing, a transaction will not be deemed to involve a Change of Control if (1) the Issuer becomes a direct or indirect wholly owned subsidiary of a holding company and (2)(A) the direct or indirect holders of the Voting Stock of such holding company immediately following that transaction are substantially the same as the holders of the Issuer’s Voting Stock immediately prior to that transaction or (B) immediately following that transaction no person (other than a holding company satisfying the requirements of this sentence) is the beneficial owner, directly or indirectly, of more than 50% of the Voting Stock of such holding company.

“Change of Control Triggering Event” means the occurrence of both a Change of Control and a Ratings Decline.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor rating category of Moody’s) and a rating of BBB- or better by S&P (or its equivalent under any successor rating category of S&P). In the event that the Issuer shall select any other Rating Agency, the equivalent of such ratings by such Rating Agency shall be used.

“Moody’s” means Moody’s Investors Service, Inc., a subsidiary of Moody’s Corporation, and its successors.

“Rating Agency” means each of Moody’s and S&P and any other Rating Agency appointed by the Issuer.

“Ratings Decline” means within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Issuer to effect a Change of Control (which period shall be extended so long as the rating of the Notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies) (the “Trigger Period”), (a) if two or more Rating Agencies are providing a rating for the Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by at least two Rating Agencies and the Notes shall be rated below Investment Grade by each of such Rating Agencies or (b) if only one Rating Agency is providing a rating for the

Notes at the commencement of any Trigger Period, the rating of the Notes shall be reduced by such Rating Agency and the Notes shall be rated below Investment Grade by such Rating Agency. Neither the Trustee nor the Paying Agent shall be responsible for monitoring the Issuer's Investment Grade status or determining whether a Ratings Decline has occurred.

“S&P” means S&P Global Ratings, a division of S&P Global Inc., and its successors.

“Voting Stock” with respect to any person, means securities of any class of Capital Stock of such person entitling the holders thereof (whether at all times or only so long as no senior class of stock or other relevant equity interest has voting power by reason of any contingency) to vote in the election of members of the board of directors of such person.

The Issuer shall comply in all material respects with the requirements of Regulation 14E under the Exchange Act and any other securities laws and regulations thereunder to the extent those laws and regulations are applicable in connection with the repurchase of the Notes as a result of a Change of Control Triggering Event. To the extent that the provisions of any such securities laws or regulations conflict with the Change of Control Offer provisions of the Notes, the Issuer shall comply with those securities laws and regulations and shall not be deemed to have breached the Issuer's obligations under the Change of Control Offer provisions of the Notes by virtue of any such conflict.

### ***Miscellaneous***

The Notes are subject to the defeasance provisions set forth in Section 10.2 of the Indenture.

Upon due presentment for registration of transfer of this Note at the office of the Paying Agent or at such other office or agency as is designated by the Issuer, a new Note or Notes of authorized denominations for an equal aggregate principal amount and like tenor will be issued to the transferee in exchange therefor, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith; provided, however, that this Note is exchangeable only if (i) the Depositary notifies the Issuer that it is unwilling or unable to continue as Depositary for this Note or if at any time the Depositary ceases to be eligible or in good standing under the Exchange Act, or other applicable statutes or regulations, and the Issuer does not appoint a successor Depositary within 90 days after the Issuer received such notice or becomes aware of such ineligibility or lack of good standing or (ii) the Issuer in its sole discretion determines that this Note shall be exchanged for certificated Notes in definitive form, provided that the definitive Notes so issued in exchange for this Note shall be in authorized denominations and be of like aggregate principal amount and tenor and terms as the portion of this Note to be exchanged.

The Issuer will pay any administrative costs imposed by banks in connection with making payments on this Note by wire transfer, but any tax, assessment or governmental charge imposed upon payments will be borne by the holder hereof.

The Issuer, the Trustee and any agent of the Issuer or the Trustee shall deem and treat the registered holder hereof as the absolute owner of this Note (whether or not this Note shall be overdue and notwithstanding any notation of ownership or other writing hereon) for the purpose

of receiving payment of or on account of the principal hereof and premium, if any, and subject to the provisions on the face hereof, interest hereon, and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary. Neither the Trustee nor the Paying Agent shall act as the Exchange Rate Agent or have any responsibility for effecting any foreign currency conversions or calculations hereunder.

No recourse under or upon any obligation, covenant or agreement contained in the Indenture or in any Note, or because of any indebtedness evidenced thereby, shall be had against any incorporator, stockholder, officer or director, as such, of the Issuer or of any successor, either directly or through the Issuer or any successor, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance hereof and as part of the consideration for the issue hereof.

Undefined terms used herein which are defined in the Indenture shall have the respective meanings assigned thereto in the Indenture.

THIS NOTE SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK.

ABBREVIATIONS

The following abbreviations, when used in the inscription on the face of this Note, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM — as tenants in common

TEN ENT — as tenants by the entireties

JT TEN — as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT — Custodian

(Cust) (Minor)

under Uniform Gifts to Minors Act

(State)

Additional abbreviations may also be used though not in the above list

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto

PLEASE INSERT TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS OF ASSIGNEE

the within Note of AIR PRODUCTS AND CHEMICALS, INC. and hereby does irrevocably constitute and appoint

Attorney to transfer the said Note on the books of the within-named Issuer, with full power of substitution in the premises.

Dated \_\_\_\_\_

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the certificate in every particular, without alteration or enlargement or any change whatever.



## COVINGTON

BEIJING BRUSSELS DUBAI FRANKFURT JOHANNESBURG  
LONDON LOS ANGELES NEW YORK PALO ALTO  
SAN FRANCISCO SEOUL SHANGHAI WASHINGTON

Covington & Burling LLP  
One CityCenter  
850 Tenth Street, NW  
Washington, DC 20001-4956  
T +1 202 662 6000

April 30, 2020

Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard  
Allentown, Pennsylvania 18195-1501

Ladies and Gentlemen:

We have acted as counsel to Air Products and Chemicals, Inc., a Delaware corporation (the “*Company*”), and are rendering this opinion in connection with the registration by the Company under the Securities Act of 1933, as amended (the “*Securities Act*”), of the offer and sale of (i) \$550,000,000 in aggregate principal amount of the Company’s 1.500% Notes due 2025 (the “*2025 Notes*”), (ii) \$650,000,000 in aggregate principal amount of the Company’s 1.850% Notes due 2027 (the “*2027 Notes*”), (iii) \$900,000,000 in aggregate principal amount of the Company’s 2.050% Notes due 2030 (the “*2030 Notes*”), (iv) \$750,000,000 in aggregate principal amount of the Company’s 2.700% Notes due 2040 (the “*2040 Notes*”) and (v) \$950,000,000 in aggregate principal amount of the Company’s 2.800% Notes due 2050 (the “*2050 Notes*” and, together with the 2025 Notes, the 2027 Notes, the 2030 Notes and the 2040 Notes, the “*Notes*”), to be issued pursuant to the Indenture, dated as of April 30, 2020 (the “*Indenture*”), between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “*Trustee*”), pursuant to the prospectus, dated November 22, 2018 (the “*Base Prospectus*”), as supplemented by the prospectus supplement, dated April 28, 2020 (the “*Prospectus Supplement*” and, together with the Base Prospectus, the “*Prospectus*”), relating to the Company’s Registration Statement on Form S-3 (File No. 333-221729), filed with the Securities and Exchange Commission (the “*Commission*”) on November 22, 2017 (the “*Registration Statement*”).

We have reviewed such corporate records, certificates and other documents, and such questions of law, as we have deemed necessary or appropriate for the purposes of this opinion. We have assumed that all signatures are genuine, that all documents submitted to us as originals are authentic and that all copies of documents submitted to us conform to the originals.

We have assumed further that the Trustee has duly authorized, executed and delivered the Indenture.

We have relied as to certain matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible.

Based upon the foregoing, and subject to the qualifications set forth below, we are of the opinion that, when the Notes have been (a) duly executed by the Company and duly authenticated and delivered by the Trustee in accordance with the Indenture and (b) issued and

Air Products and Chemicals, Inc.

April 30, 2020

Page 2

delivered by the Company against payment of the purchase price therefor in accordance with the Prospectus, the Notes will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other laws of general applicability relating to or affecting creditors' rights and to general equity principles.

We are members of the bars of the District of Columbia and the State of New York. We do not express any opinion herein on any law other than the law of the State of New York.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Current Report on Form 8-K that will be incorporated by reference into the Registration Statement. We also hereby consent to the reference to our firm under the heading "Legal Matters" in the Prospectus. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Covington & Burling LLP

## COVINGTON

BEIJING BRUSSELS DUBAI FRANKFURT JOHANNESBURG  
LONDON LOS ANGELES NEW YORK PALO ALTO  
SAN FRANCISCO SEOUL SHANGHAI WASHINGTON

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T +1 202 662 6000

April 30, 2020

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7201 Hamilton Boulevard  
Allentown, Pennsylvania 18195-1501

Ladies and Gentlemen:

We have acted as counsel to Air Products and Chemicals, Inc., a Delaware corporation (the “*Company*”), and are rendering this opinion in connection with the registration by the Company under the Securities Act of 1933, as amended (the “*Securities Act*”), of the offer and sale of (i) €500,000,000 in aggregate principal amount of the Company’s 0.500% Notes due 2028 (the “*2028 Notes*”) and (ii) €500,000,000 in aggregate principal amount of the Company’s 0.800% Notes due 2032 (the “*2032 Notes*”) and, together with the 2028 Notes, the “*Notes*”), to be issued pursuant to the Indenture, dated as of April 30, 2020 (the “*Indenture*”), between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (the “*Trustee*”), pursuant to the prospectus, dated November 22, 2018 (the “*Base Prospectus*”), as supplemented by the prospectus supplement, dated April 28, 2020 (the “*Prospectus Supplement*”) and, together with the Base Prospectus, the “*Prospectus*”), relating to the Company’s Registration Statement on Form S-3 (File No. 333-221729), filed with the Securities and Exchange Commission (the “*Commission*”) on November 22, 2017 (the “*Registration Statement*”).

We have reviewed such corporate records, certificates and other documents, and such questions of law, as we have deemed necessary or appropriate for the purposes of this opinion. We have assumed that all signatures are genuine, that all documents submitted to us as originals are authentic and that all copies of documents submitted to us conform to the originals.

We have assumed further that the Trustee has duly authorized, executed and delivered the Indenture.

We have relied as to certain matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible.

Based upon the foregoing, and subject to the qualifications set forth below, we are of the opinion that, when the Notes have been (a) duly executed by the Company and duly authenticated and delivered by the Trustee in accordance with the Indenture and (b) issued and delivered by the Company against payment of the purchase price therefor in accordance with the Prospectus, the Notes will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other laws of general applicability relating to or affecting creditors’ rights and to general equity principles.

Air Products and Chemicals, Inc.

April 30, 2020

Page 2

We are members of the bars of the District of Columbia and the State of New York. We do not express any opinion herein on any law other than the law of the State of New York.

We hereby consent to the filing of this opinion as Exhibit 5.2 to the Current Report on Form 8-K that will be incorporated by reference into the Registration Statement. We also hereby consent to the reference to our firm under the heading "Legal Matters" in the Prospectus. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Covington & Burling LLP

# News Release



Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard, Allentown, PA 18195-1501  
www.airproducts.com

## Air Products Announces Pricing of \$3.8 Billion and €1.0 Billion Debt Offerings

LEHIGH VALLEY, PA (April 28, 2020) – Air Products (NYSE:APD) today announced the pricing of its registered offerings of \$3.8 billion aggregate principal amount of U.S. dollar-denominated fixed-rate notes and €1.0 billion aggregate principal amount of euro-denominated fixed-rate notes. The notes from the offerings consist of the following tranches:

U.S. Dollar-Denominated Offering	Euro-Denominated Offering
<ul style="list-style-type: none"> <li>• \$550 million of 1.500% Notes due 2025</li> <li>• \$650 million of 1.850% Notes due 2027</li> <li>• \$900 million of 2.050% Notes due 2030</li> <li>• \$750 million of 2.700% Notes due 2040</li> <li>• \$950 million of 2.800% Notes due 2050</li> </ul>	<ul style="list-style-type: none"> <li>• €500 million of 0.500% Notes due 2028</li> <li>• €500 million of 0.800% Notes due 2032</li> </ul>

Air Products intends to use the net proceeds from the notes offerings to repay upcoming debt maturities and for general corporate purposes, including financing a planned equity investment of approximately \$2.5 billion in the joint venture that will acquire the gasification, power and industrial gas assets at Jazan Economic City, Saudi Arabia, and other investments in industrial gas projects. Air Products intends to use a portion of the net proceeds from the euro-denominated notes offering to repay €300 million aggregate principal amount of its 2.000% Notes due 2020, which mature on August 7, 2020, and €350 million aggregate principal amount of its 0.375% Notes due 2021, which mature on June 1, 2021, and may use a portion of the net proceeds from the U.S. dollar-denominated notes offering to repay up to \$400 million aggregate principal amount of its 3.000% Notes due 2021, which mature on November 3, 2021.

The U.S. dollar-denominated offering priced on April 27, 2020 and is expected to close on April 30, 2020 and the euro-denominated offering priced on April 28, 2020 and is expected to close on May 5, 2020, subject in each case to the satisfaction of customary closing conditions.

This press release is neither an offer to sell nor the solicitation of an offer to buy any securities. In addition, there shall not be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction. The notes offerings will be made only by means of prospectus supplements and an accompanying prospectus filed as part of an effective shelf registration statement previously filed with the U.S. Securities and Exchange Commission.

Barclays Capital Inc., BofA Securities, Inc., Citigroup Global Markets Inc. and J.P. Morgan Securities LLC are serving as joint-book running managers for the U.S. dollar-denominated notes offering. BNP Paribas, Citigroup Global Markets Limited, Deutsche Bank AG, London Branch and Merrill Lynch International are serving as joint-book running managers for the euro-denominated notes offering. Copies of the prospectus supplement and the accompanying prospectus relating to the U.S. dollar-denominated notes offering may be obtained by calling Barclays Capital Inc. toll-free at 1-888-603-5847, BofA Securities, Inc. toll-free at 1-800-294-1322, Citigroup Global Markets Inc. toll-free at 1-800-831-9146 and J.P. Morgan Securities LLC collect at 1-212-834-

-more-

4533, and copies of the prospectus supplement and the accompanying prospectus relating to the euro-denominated notes offering may be obtained by calling BNP Paribas toll-free at 1-800-854-5674, Citigroup Global Markets Limited toll-free at 1-800-831-9146, Deutsche Bank AG, London Branch toll-free at 1-800-503-4611 and Merrill Lynch International toll-free at 1-800-294-1322.

### **About Air Products**

Air Products is a world-leading industrial gases company in operation for nearly 80 years. Focused on serving energy, environment and emerging markets, the Company provides essential industrial gases, related equipment and applications expertise to customers in dozens of industries, including refining, chemical, metals, electronics, manufacturing, and food and beverage. Air Products is also the global leader in the supply of liquefied natural gas process technology and equipment. The Company develops, engineers, builds, owns and operates some of the world's largest industrial gas projects, including gasification projects that sustainably convert abundant natural resources into syngas for the production of high-value power, fuels and chemicals.

The Company had fiscal 2019 sales of \$8.9 billion from operations in 50 countries and has a current market capitalization of about \$50 billion. More than 17,000 passionate, talented and committed employees from diverse backgrounds are driven by Air Products' higher purpose to create innovative solutions that benefit the environment, enhance sustainability and address the challenges facing customers, communities, and the world.

### **Media Inquiries :**

Katie McDonald, tel: (610) 481-3673; email: [mcdonace@airproducts.com](mailto:mcdonace@airproducts.com).

### **Investor Inquiries :**

Simon Moore, tel: (610) 481-7461; email: [mooresr@airproducts.com](mailto:mooresr@airproducts.com).

***Cautious Note Regarding Forward-Looking Statements :*** *This release contains "forward-looking statements" within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, including statements regarding expectations with respect to each of the notes offerings. These forward-looking statements are based on management's expectations and assumptions as of the date of this release and are not guarantees of future performance. While forward-looking statements are made in good faith and based on assumptions, expectations and projections that management believes are reasonable based on currently available information, actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation: the duration and impacts of the novel coronavirus ("COVID-19") global pandemic and efforts to contain its transmission, including the effect of these factors on our business, our customers, economic conditions and markets generally; changes in global or regional economic conditions, supply and demand dynamics in market segments we serve, or in the financial markets that may affect the availability and terms on which we may obtain financing; risks associated with having extensive international operations, including political risks, risks associated with unanticipated government actions and risks of investing in developing markets; project delays, contract terminations or customer cancellations or postponement of projects and sales; future financial and operating performance of major customers and joint venture partners; our ability to develop, implement, and operate new technologies, or to execute the projects in our backlog; our ability to develop and operate large scale and technically complex projects, including gasification projects; tariffs, economic sanctions and regulatory activities in jurisdictions*

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*in which we and our affiliates and joint ventures operate; the impact of environmental, tax or other legislation, as well as regulations affecting our business and related compliance requirements, including legislation or regulations related to global climate change; changes in tax rates and other changes in tax law; the timing, impact, and other uncertainties relating to acquisitions and divestitures, including our ability to integrate acquisitions and separate divested businesses, respectively; risks relating to cybersecurity incidents, including risks from the interruption, failure or compromise of our information systems; catastrophic events, such as natural disasters, acts of war, or terrorism; the impact on our business and customers of price fluctuations in oil and natural gas and disruptions in markets and the economy due to oil and natural gas price volatility; costs and outcomes of legal or regulatory proceedings and investigations; asset impairments due to economic conditions or specific events; significant fluctuations in interest rates and foreign currency exchange rates from those currently anticipated; damage to facilities, pipelines or delivery systems, including those we own or operate for third parties; availability and cost of raw materials; the success of productivity and operational improvement programs; and other risk factors described in the Company's Annual Report on Form 10-K for its fiscal year ended September 30, 2019 and Quarterly Report on Form 10-Q for the period ended March 31, 2020. Except as required by law, the Company disclaims any obligation or undertaking to update or revise any forward-looking statements contained herein to reflect any change in the assumptions, beliefs, or expectations or any change in events, conditions, or circumstances upon which any such forward-looking statements are based.*

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