
**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 28, 2021

PQ Group Holdings Inc.

Commission File Number: 001-38221

Delaware
(State or other jurisdiction
of incorporation)

300 Lindenwood Drive
Malvern, Pennsylvania
(Address of principal executive offices)

81-3406833
(IRS Employer
Identification No.)

19355
(Zip Code)

(610) 651-4400
(Registrant's telephone number, including area code)

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:

- 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	Name of each exchange on which registered
Common Stock, par value \$0.01 per share	PQG	New York Stock Exchange

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

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 1.01 Entry into a Material Definitive Agreement

On April 28, 2021, PQ Group Holdings Inc. (the “Company”) entered into an Underwriting Agreement (the “Underwriting Agreement”) by and among the Company, Citigroup Global Markets Inc. and Deutsche Bank Securities Inc., as representatives of the several underwriters listed on Schedule II thereto (such underwriters collectively, the “Underwriters”), and the selling stockholders listed on Schedule I thereto (the “Selling Stockholders”), relating to the underwritten offering of 12,500,000 shares (the “Shares”), including the Underwriters’ 30-day option to purchase up to an additional 1,875,000 shares from the Selling Stockholders, of the Company’s common stock, par value \$0.01 per share (the “Offering”). All of the Shares are being sold by the Selling Stockholders. The Underwriters have agreed to purchase the Shares from the Selling Stockholders pursuant to the Underwriting Agreement at a price of \$13.44 per share.

The Offering is being made only by means of a prospectus. An automatic shelf registration statement (including a prospectus) relating to the offering of common stock was filed with the Securities and Exchange Commission (the “SEC”) on April 26, 2021 (File No. 333-255514) (the “Registration Statement”). A prospectus supplement relating to the Offering was filed with the SEC on April 26, 2021. The closing of the Offering is expected to take place on or about May 3, 2021 subject to the satisfaction of customary closing conditions. A copy of the Underwriting Agreement is filed as Exhibit 1.1 to this Current Report on Form 8-K.

Item 8.01 Other Events

Ropes & Gray LLP, counsel to the Company, has issued an opinion to the Company, dated April 29, 2021, regarding the Shares to be sold in the Offering. A copy of the opinion is filed as Exhibit 5.1 to this Current Report on Form 8-K. Certain information relating to Part II, Item 14 “Other Expenses of Issuance and Distribution” of the Registration Statement is filed as Exhibit 99.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits.

Exhibit No.	Description
1.1	<u>Underwriting Agreement, dated April 28, 2021, by and among the Company, Citigroup Global Markets Inc. and Deutsche Bank Securities Inc., as representatives of the Underwriters, and the Selling Stockholders.</u>
5.1	<u>Opinion of Ropes & Gray LLP</u>
23.1	<u>Consent of Ropes & Gray LLP (included in Exhibit 5.1 above)</u>
99.1	<u>Information relating to Part II, Item 14 “Other Expenses of Issuance and Distribution” of the Registration Statement.</u>
104	The cover page from this Current Report on Form 8-K of PQ Group Holdings Inc., formatted in Inline XBRL and included as Exhibit 101

SIGNATURE

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.

Date: April 29, 2021

PQ Group Holdings Inc.

By: /s/ Mike Crews
Executive Vice President and Chief Financial Officer

12,500,000 Shares

PQ GROUP HOLDINGS INC.

COMMON STOCK, PAR VALUE \$0.01 PER SHARE

UNDERWRITING AGREEMENT

April 28, 2021

Citigroup Global Markets Inc.
Deutsche Bank Securities Inc.
As representatives of the several Underwriters (the "Representatives")

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, New York 10005

Ladies and Gentlemen:

Certain stockholders named in Schedule I hereto (the "**Selling Stockholders**") of PQ Group Holdings Inc., a Delaware corporation (the "**Company**"), propose to sell to the several Underwriters named in Schedule II hereto (the "**Underwriters**") 12,500,000 shares of the Company's Common Stock, par value \$0.01 per share (the "**Firm Shares**"). The Selling Stockholders also propose to sell to the several Underwriters not more than an additional 1,875,000 shares of the Company's Common Stock, par value \$0.01 per share (the "**Additional Shares**"), if and to the extent that you, as the Representatives of the offering, shall have determined to exercise, on behalf of the Underwriters, the right to purchase such shares of common stock granted to the Underwriters in Section 3 hereof. The Firm Shares and the Additional Shares are hereinafter collectively referred to as the "**Shares**." The shares of Common Stock, par value \$0.01 per share, of the Company to be outstanding after giving effect to the sales contemplated hereby are hereinafter referred to as the "**Common Stock**."

The Company has filed with the Securities and Exchange Commission (the "**Commission**") a registration statement on Form S-3ASR (File No. 333-255514), including a prospectus, relating to the securities (the "**Shelf Securities**"), including the Shares, to be sold from time to time by the Selling Stockholders and other stockholders of the Company. The registration statement as amended to the date of this Agreement, including the information (if any) deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A or Rule 430 B under the Securities Act of 1933, as amended (the "**Securities Act**"), is hereinafter referred to as the "**Registration Statement**"; and the related prospectus covering the Shelf Securities dated April 26, 2021 in the form first used to confirm sales of the Shares (or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act) is hereinafter referred to as the "**Basic Prospectus**." The Basic Prospectus, as supplemented by the prospectus supplement specifically relating to the Shares in the form first used to confirm sales of the Shares (or in the form

first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act) is hereinafter referred to as the “**Prospectus**,” and the term “**preliminary prospectus**” means any preliminary form of the Prospectus.

For purposes of this Agreement, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, “**Time of Sale Prospectus**” means the documents and pricing information set forth opposite the caption “Time of Sale Prospectus” in Schedule III hereto, and “**broadly available road show**” means a “bona fide electronic road show” as defined in Rule 433(h)(5) under the Securities Act that has been made available without restriction to any person. As used herein, the terms “Registration Statement,” “Basic Prospectus,” “preliminary prospectus,” “Time of Sale Prospectus” and “Prospectus” shall include the documents, if any, incorporated by reference therein as of the date hereof. The terms “**supplement**,” “**amendment**,” and “**amend**” as used herein with respect to the Registration Statement, the Basic Prospectus, the Time of Sale Prospectus, any preliminary prospectus or the Prospectus shall include all documents subsequently filed by the Company with the Commission pursuant to the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”), that are deemed to be incorporated by reference therein.

1. *Representations and Warranties of the Company.* The Company represents and warrants to and agrees with each of the Underwriters that:

(a) The Registration Statement has become effective; no stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose or pursuant to Section 8A of the Securities Act are pending before or, to the Company’s knowledge, threatened by the Commission. The Company is a well-known seasoned issuer (as defined in Rule 405 under the Securities Act) eligible to use the Registration Statement as an automatic shelf registration statement and the Company has not received notice that the Commission objects to the use of the Registration Statement as an automatic shelf registration statement.

(b) (i) Each document, if any, filed or to be filed pursuant to the Exchange Act and incorporated by reference in the Time of Sale Prospectus or the Prospectus complied or will comply when so filed in all material respects with the Exchange Act and the applicable rules and regulations of the Commission thereunder, (ii) the Registration Statement, when it became effective, did not contain and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will not contain, any 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 not misleading, (iii) the Registration Statement as of the date hereof does not contain any 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 not misleading, (iv) the Registration Statement and the Prospectus comply, and as amended or supplemented, if applicable, will comply in all material respects with the Securities Act and the applicable rules and

regulations of the Commission thereunder, (v) Time of Sale Prospectus does not, and at the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers and at the Closing Date (as defined in Section 5), the Time of Sale Prospectus, as then amended or supplemented by the Company, if applicable, will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, (vi) each broadly available road show, if any, when considered together with the Time of Sale Prospectus, does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading and (vii) the Prospectus does not contain and, as amended or supplemented, if applicable, as of its date or as of the Closing Date, will not contain, any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph do not apply to statements in or omissions from the Registration Statement, the Time of Sale Prospectus or the Prospectus based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through or on behalf of you expressly for use therein.

(c) The Company is not an “ineligible issuer” in connection with the offering pursuant to Rules 164, 405 and 433 under the Securities Act. Any free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or, if filed after the date of this Agreement, will comply as of the date of such filing, in all material respects with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Except for the free writing prospectuses, if any, identified in Schedule III hereto forming part of the Time of Sale Prospectus, and electronic road shows, if any, each furnished to you before first use, the Company has not prepared, used or referred to, and will not, without your prior consent, prepare, use or refer to, any free writing prospectus.

(d) Each of the Company and its significant subsidiaries (as such term is defined in Rule 1-02 of Regulation S-X under the Exchange Act (as defined below)) has been duly incorporated or formed, as applicable, and is validly existing as a corporation, limited liability company or limited partnership, as applicable, in good standing under the laws of the jurisdiction of its incorporation or formation, as applicable, and has the requisite power and authority to own, lease and operate each of their respective properties and to conduct each of their respective businesses as described in the Time of Sale Prospectus. Each of the Company and such significant subsidiaries is duly qualified as a foreign

corporation, limited liability company or limited partnership, as applicable, to transact business and is in good standing or equivalent status (to the extent such concept is applicable in such jurisdiction) in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except for such jurisdictions where the failure to so qualify or to be in good standing would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change (as defined below). Schedule IV attached hereto includes all significant subsidiaries of the Company.

(e) All of the issued shares of capital stock or other ownership interests of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable (to the extent such concepts are applicable in such jurisdiction) and are owned directly by the Company or a subsidiary of the Company, free and clear of all liens, encumbrances, equities or claims, except as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, respectively.

(f) This Agreement has been duly authorized, executed and delivered by the Company.

(g) The authorized capital stock of the Company conforms as to legal matters to the description thereof contained in each of the Time of Sale Prospectus and the Prospectus.

(h) The shares of Common Stock (including the Shares to be sold by the Selling Stockholders) have been duly authorized and are validly issued, fully paid and non-assessable.

(i) [Reserved].

(j) The execution and delivery by the Company of, and the performance by the Company of its obligations under, this Agreement will not contravene any provision of (i) applicable law, (ii) the certificate of incorporation or by-laws of the Company, (iii) any agreement or other instrument binding upon the Company or any of its subsidiaries that is material to the Company and its subsidiaries, taken as a whole, or (iv) any judgment, order or decree of any governmental body, agency or court having jurisdiction over the Company or any subsidiary, except in the case of clauses (i), (iii) and (iv), for such contraventions as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change or adversely affect the ability of the Company to perform its obligations under this Agreement, and no consent, approval, authorization or order of, or qualification with, any governmental body or agency is required for the performance by the Company of its obligations under this Agreement, except such as have been previously obtained or may be required by the securities or Blue Sky laws of the various states or foreign jurisdictions or the rules and regulations of the Financial Industry Regulatory Authority (“FINRA”)

in connection with the offer and sale of the Shares. The Company is not in (i) violation of its certificate of incorporation or bylaws or (ii) default (or, with the giving of notice or lapse of time, would be in default) (“Default”) under any indenture, mortgage, loan or credit agreement, note, contract, franchise, lease or other instrument to which it is a party or by which it or any of them may be bound (including without limitation capital leases and lines of credit), or to which their respective property or assets is subject, except, for such Defaults as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change.

(k) PricewaterhouseCoopers LLP (“PWC”), which certified certain financial statements (which term as used in this Agreement includes the related notes thereto) of (i) the Company and its subsidiaries and (ii) Zeolyst International (“ZI”), in each case included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, is an independent auditor with respect to each of the Company and its subsidiaries and ZI, in each case within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(l) (i) The financial statements, together with the related schedules and notes thereto, of the Company and its subsidiaries and of ZI, included or incorporated by reference in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the consolidated financial position of each of the Company and its subsidiaries and ZI, respectively, as of and at the dates indicated and the results of their operations, comprehensive income, stockholders’ equity and cash flows for the periods specified; (ii) the financial statements of each of the Company and its subsidiaries and ZI have been prepared in conformity with generally accepted accounting principles as applied in the United States (“U.S. GAAP”) applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto and except in the case of unaudited financial statements, which are subject to normal year-end adjustments and do not contain certain footnotes as permitted by the applicable rules of the Commission; (iii) the financial data included or incorporated by reference in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus fairly present in all material respects the information set forth therein on a basis consistent with that of the audited financial statements contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus; and (iv) the unaudited pro forma condensed consolidated financial statements and the related notes thereto included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly in all material respects the information contained therein, have been prepared in accordance with the Commission’s rules, regulations and guidelines with respect to pro forma financial statements and have been properly presented on the bases described

therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein.

(m) Except as otherwise disclosed in the Time of Sale Prospectus, there has been no material adverse change, nor any prospective development that could reasonably be expected to result in a material adverse change, in the condition, financial or otherwise, business, results of operations, whether or not arising from transactions in the ordinary course of business, of the Company and its subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus (any such change is called a “**Material Adverse Change**”).

(n) There are no legal or governmental actions, suits or proceedings pending or, to the knowledge of the Company, threatened (i) against or affecting the Company or any of its subsidiaries and, (ii) which has as the subject thereof any property owned or leased by the Company or any of its subsidiaries (a) other than proceedings accurately described in all material respects in the Time of Sale Prospectus and any actions, suits or proceedings, if determined adversely to the Company or any of its subsidiaries, that would not individually or in the aggregate reasonably be expected to result in a Material Adverse Change or adversely affect the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated by the Time of Sale Prospectus or (b) that are required to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus and are not so described in the Registration Statement, the Time of Sale Prospectus or the Prospectus; and there are no statutes, regulations, contracts or other documents to which the Company is subject or by which the Company is bound that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement that are not described or filed as required.

(o) Each preliminary prospectus filed as part of the registration statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Securities Act, complied when so filed in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder.

(p) The Company is not, and after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Time of Sale Prospectus and the Prospectus will not be, an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission promulgated thereunder.

(q) Except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change: (i) each of the Company and its subsidiaries and their respective operations and facilities is in compliance with applicable Environmental Laws, which compliance includes, without limitation, having obtained and being in compliance with any permits, licenses or other

governmental authorizations or approvals, and having made all filings and provided all financial assurances and notices, required for the ownership and operation of the business as presently conducted, or current properties and facilities of each of the Company and its subsidiaries under applicable Environmental Laws, and compliance with the terms and conditions thereof; (ii) none of the Company nor any of its subsidiaries has received any written communication, whether from a governmental authority, citizens group, employee or other person, that alleges that the Company or its subsidiaries is in violation of any Environmental Law, which communication remains unresolved; (iii) there are no claims pending by any governmental authority or, to the knowledge of the Company, threatened against the Company or any of its subsidiaries, as applicable, alleging actual or potential liability pursuant to any Environmental Law; (iv) none of the Company nor any of its subsidiaries is conducting or paying for, in whole or in part, any public investigation, response or other corrective action pursuant to any Environmental Law at any site or facility, nor is it subject or a party to any order, judgment or decree issued by a governmental authority, or any contract or agreement which imposes any obligation or liability under any Environmental Law; (v) to the knowledge of the Company, no lien, charge, encumbrance or restriction, has been recorded pursuant to any Environmental Law with respect to any assets, facility or property owned or leased by the Company or any of its subsidiaries, as applicable, which would adversely affect the operation of any such assets, facility or property; and (vi) to the knowledge of the Company, there are no current conditions or occurrences, including, without limitation, the Release or threatened Release of any Material of Environmental Concern, or pending or threatened governmental authority investigations, that could reasonably be expected to result in a violation of or liability under any Environmental Law on the part of the Company or any of its subsidiaries, as applicable, including without limitation, any such liability which the Company or any of its subsidiaries, as applicable, has retained or assumed via indemnity.

For purposes of this Agreement, "Environment" means ambient air, indoor air, surface water, groundwater, drinking water, soil, surface and subsurface strata, and natural resources such as wetlands, flora and fauna. "Environmental Laws" means, to the extent applicable, the common law and all federal, state, local and foreign laws or regulations, ordinances, codes, orders, decrees, judgments and injunctions issued, promulgated or entered thereunder, relating to pollution or protection of the Environment or human health (as it relates to exposure to Materials of Environmental Concern), including without limitation, those relating to (i) the Release or threatened Release of Materials of Environmental Concern; and (ii) the manufacture, processing, distribution, use, generation, treatment, storage, transport, handling or recycling of Materials of Environmental Concern. "Materials of Environmental Concern" means any substance, material, pollutant, contaminant, chemical, waste, compound, or constituent defined as "toxic," "hazardous," a "pollutant," a "contaminant" or words of similar meaning and effect by any applicable Environmental Law, including without limitation, petroleum and petroleum products. "Release" means any release, spill, emission, discharge, deposit, disposal, leaking, pumping, pouring, dumping, emptying, injection or leaching of any Materials of Environmental Concern in, into, onto or through the Environment.

(r) Except as described in the Time of Sale Prospectus and the Prospectus, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company or to require the Company to include such securities with the Shares registered pursuant to the Registration Statement.

(s) (i) None of the Company or its subsidiaries or affiliates, or any director, officer, or employee thereof, or, to the Company's knowledge, any agent or representative of the Company or of any of its subsidiaries or affiliates, has taken any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any government official (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) ("**Government Official**"), or to any person in violation of any applicable anti-bribery and anti-corruption laws; (ii) the Company and its subsidiaries and affiliates have conducted their businesses in compliance with applicable anti-bribery and anti-corruption laws and have instituted and maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and (iii) neither the Company nor its subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(t) The operations of the Company and its subsidiaries are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of 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 knowledge of the Company, threatened.

(u) (i) None of the Company, any of its subsidiaries, or any director or officer thereof, or, to the Company's knowledge, any agent, controlled affiliate, employee or representative of the Company or any of its subsidiaries, is an individual or entity ("**Person**") that is, or is owned or controlled by one or more Persons that are:

(a) the subject of any sanctions administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control ("**OFAC**"), the United Nations Security Council ("**UNSC**"), the European Union ("**EU**"), Her Majesty's Treasury ("**HMT**"), or other relevant sanctions authority (collectively, "**Sanctions**"), or

(b) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Crimea, Cuba, Iran, North Korea and Syria).

[Reserved].

The Company and its subsidiaries are not now and for the past five years have not knowingly engaged in any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(v) Subsequent to the respective dates as of which information is given in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, (i) the Company and its subsidiaries have not incurred any material liability or obligation, indirect, direct or contingent, not in the ordinary course of business nor entered into any material transaction or agreement not in the ordinary course of business; (ii) the Company has not purchased any of its outstanding capital stock, other than from its employees or other service providers in connection with the termination of their service pursuant to equity compensation plans or agreements described in the Time of Sale Prospectus, nor declared, paid or otherwise made any dividend or distribution of any kind on its capital stock other than ordinary and customary dividends; and (iii) there has not been any material change in the capital stock, short-term debt or long-term debt of the Company and its subsidiaries, except in each case as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, respectively.

(w) Each of the Company and its subsidiaries owns or leases all such properties as are necessary for the conduct of the operations, in all material respects, of their respective businesses as presently conducted. Each of the Company and its subsidiaries has good and marketable title to all the properties and assets reflected as owned in the Company's financial statements, in each case free and clear of any security interests, mortgages, liens, encumbrances, equities, claims and other defects, except as disclosed in the Time of Sale Prospectus or

except such as do not materially and adversely affect the value of such property and do not materially interfere with the use made or proposed to be made of such property by the Company and its subsidiaries. The real property and improvements held under lease by the Company and its subsidiaries are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property or improvements by the Company and its subsidiaries.

(x) The Company and its subsidiaries own, or possess or have a license to use, the trademarks, trade names, patent rights, copyrights, trade secrets and other similar rights (collectively, "**Intellectual Property Rights**") reasonably necessary to conduct their respective businesses as now conducted free, to the Company's knowledge, of any infringement of the Intellectual Property Rights of others, except for any such infringement or other violation that would not reasonably be expected to result in a Material Adverse Change. The expected expiration of any of such Intellectual Property Rights would not reasonably be expected to result in a Material Adverse Change. None of the Company nor any of its subsidiaries have received any notice of infringement or conflict with asserted Intellectual Property Rights of others, which infringement or conflict, if the subject of an unfavorable decision, would reasonably be expected to result in a Material Adverse Change.

(y) No material relationship, direct or indirect, exists between or among, to the knowledge of the Company, the Company, any of its subsidiaries or any controlled affiliate thereof, on the one hand, and any director, officer, member, stockholder, customer or supplier of the Company, any of its subsidiaries, or any controlled affiliate thereof, on the other hand, which is required by (i) U.S. GAAP to be disclosed in the relevant financial statements which is not so disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus or (ii) the Securities Act to be described in each of the Registration Statement and the Prospectus and that is not so described in such documents and in the Time of Sale Prospectus.

(z) Except as would not, individually or in the aggregate, result in a Material Adverse Change, (i) there is (A) no unfair labor practice complaint pending or, to the knowledge of the Company, threatened against the Company or any of its subsidiaries before the National Labor Relations Board, and no grievance or arbitration proceeding arising out of or under collective bargaining agreements pending, or to the knowledge of the Company, threatened, against the Company or any of its subsidiaries, as applicable, (B) no strike, labor dispute, slowdown or stoppage pending or, to the knowledge of the Company, threatened against the Company or any of its subsidiaries and (C) no union representation question existing with respect to the employees of the Company or any of its subsidiaries and, to the knowledge of the Company, no union organizing activities taking place and (ii) there has been no violation of any federal, state or local law relating to discrimination in hiring, promotion or pay of employees or of any applicable wage or hour laws.

(aa) The Company and any “employee benefit plan” (as defined under and subject to the Employee Retirement Income Security Act of 1974 (as amended, “**ERISA**,” which term, as used herein, includes the applicable regulations thereunder) established or maintained by the Company or any of its subsidiaries or any of the ERISA Affiliates (as defined below) of the Company or any of its subsidiaries is in compliance with ERISA except for non-compliance which would not reasonably be expected to result in a Material Adverse Change. “**ERISA Affiliate**” means, with respect to the Company or any of its subsidiaries, any member of any group of organizations described in Section 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986 (as amended, the “**Code**,” which term, as used herein, includes the applicable regulations thereunder) of which the Company or such subsidiary of the Company is a member. No “reportable event” (as defined in Section 4043 of ERISA, and excluding those for which the provision for 30-day notice to the Pension Benefit Guaranty Corporation has been waived by regulation) has occurred or is reasonably expected to occur with respect to any “employee benefit plan” established or maintained by the Company or its subsidiaries or any of the ERISA Affiliates of the Company or any of its subsidiaries, which has resulted or is expected to result in any material liability of the Company or its subsidiaries or any of the ERISA Affiliates of the Company or any of its subsidiaries to the Pension Benefit Guaranty Corporation. Except as would not, individually or in the aggregate, result in a Material Adverse Change, none of the Company, any of its subsidiaries, nor any of the ERISA Affiliates of the Company or any of its subsidiaries has incurred or reasonably expects to incur any liability under Title IV of ERISA with respect to termination of, or withdrawal from, any employee benefit plan. Each “employee benefit plan” established or maintained by the Company, its subsidiaries or any of the ERISA Affiliates of the Company or any of its subsidiaries that is intended to be qualified under Section 401 of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification, except for non-compliance which would not reasonably be expected to result in a Material Adverse Change.

(bb) The Company and its subsidiaries are insured by recognized, financially sound institutions with policies in such amounts and with such deductibles and covering such risks as are generally deemed adequate and customary for their businesses including, without limitation, policies covering real and personal property owned or leased by the Company and its subsidiaries against theft, damage, destruction, acts of vandalism, flood and earthquakes, except where the failure to do so would not reasonably be expected to have a Material Adverse Change. None of the Company nor any of its subsidiaries has reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Change.

(cc) The Company and its subsidiaries possess valid and current certificates, authorizations or permits issued by the appropriate state, federal or foreign regulatory agencies or bodies necessary to own, lease and operate their respective properties and to conduct their respective businesses, and neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such certificate, authorization or permit which, individually or in the aggregate, the failure to possess or the subject of an unfavorable decision, ruling or finding in such a proceeding, would reasonably be expected to result in a Material Adverse Change.

(dd) The Company has established and maintains disclosure controls and procedures (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act); such disclosure controls and procedures are designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure, and such disclosure controls and procedures are reasonably effective to perform the functions for which they were established subject to the limitations of any such control system.

(ee) The Company maintains, on behalf of itself and its consolidated subsidiaries, a system of "internal control over financial reporting" (as defined in Rule 14a-15(f) of the Exchange Act) that complies in all material respects with the requirements of the Exchange Act and has been designed by, or under the supervision of, the Company's principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. GAAP. The Company and each of its consolidated subsidiaries maintains a system of internal accounting controls that is sufficient to provide reasonable assurances that: (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP, and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorizations; (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus is accurate. Except as described in the Time of Sale Prospectus, since the end of the Company's most recent audited fiscal year, there has been (i) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (ii) 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.

(ff) The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(gg) Except as described in the Time of Sale Prospectus or the Registration Statement, the Company has not sold, issued or distributed any shares of Common Stock during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulation D or S of, the Securities Act, other than shares issued pursuant to employee benefit plans, qualified stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants.

(hh) Except as would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Change, the Company and each of its subsidiaries have filed all necessary federal, state and foreign income, franchise and other tax returns and have paid all taxes required to be paid by any of them and, if due and payable, any related or similar assessment, fine or penalty levied against any of them, except as may be contested in good faith and by appropriate proceedings and as to which adequate reserves have been established in accordance with U.S. GAAP. The Company has made adequate charges, accruals and reserves in all material respects in accordance with U.S. GAAP in the applicable financial statements in respect of all federal, state and foreign income, franchise and other material taxes for all periods as to which its tax liability or that of any of the Company's consolidated subsidiaries has not been finally determined.

(ii) As of the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers, none of (A) the Time of Sale Prospectus and (B) any free writing prospectus, when considered together with the Time of Sale Prospectus, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions in the Time of Sale Prospectus or any free writing prospectus based on information relating to any Underwriter furnished to the Company in writing by such Underwriter through or on behalf of the Representatives for use therein.

(jj) The statistical, industry and market-related data included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus are based on or derived from sources that the

Company believes to be reliable and accurate in all material respects and represent their good faith estimates that are made on the basis of data derived from such sources.

(kk) Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any of its subsidiaries or any Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Shares.

(ll) None of the Company nor any of its affiliates has taken or will take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of the Shares to facilitate the sale or resale of the Shares.

(mm) There is and has been no failure on the part of the Company, or to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002, as amended and the rules and regulations promulgated in connection therewith, including Section 402 related to loans and Sections 302 and 906 relates to certifications, to the extent compliance is required as of the date of this Agreement.

(nn) Except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change, (A) to the Company's knowledge, there has been no breach or incident, unauthorized access or disclosure, or other compromise of or relating to any of the Company's or any of its subsidiaries' information technology assets and equipment, computer systems, networks, hardware, software, websites, applications, data, and databases (including without limitation all personal, personally identifiable, sensitive, confidential, regulated, or other data or information including, without limitation the data and information of their respective customers, employees, suppliers, vendors and any third party data maintained, processed or stored by or on the behalf of the Company or any of its subsidiaries, and any such data processed or stored by third parties on behalf of the Company or any of its respective subsidiaries (such data and information, the "**Data**")), equipment or technology (together, the "**IT Systems**"); (B) the IT Systems are adequate for, and operate and perform in all respects as required in connection with the operation of the business of the Company or any of its subsidiaries as currently conducted, and to the Company's knowledge, free and clear of all bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants; (C) the Company and its subsidiaries have implemented and maintain appropriate controls, policies, procedures, and technological safeguards to maintain and protect their confidentiality the integrity, continuous operation, redundancy and security of their IT Systems and Data consistent with industry standards and practices, or as required by applicable regulatory standards in all material respects; and (D) to the Company's knowledge, the Company and its subsidiaries are in compliance with

all, and the entering into this Agreement will not violate any, applicable laws, statutes, judgments, orders, rules, and regulations of any court, arbitrator, governmental or regulatory authority, internal and external policies relating to the privacy, security, or processing of Data, or contractual obligations relating to the privacy and security of the IT Systems and Data and to the protection of the IT Systems and Data from unauthorized use, access, misappropriation or modification.

2. *Representations and Warranties of the Selling Stockholders.* Each of the Selling Stockholders severally and not jointly, represents and warrants to each Underwriter that:

(a) None of the Registration Statement, the Time of Sale Prospectus or the Prospectus or any amendments or supplements thereto included or will include any untrue statement of a material fact or omitted or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, provided that such representations and warranties set forth in this Section 2(a) apply only to statements or omissions made in reliance upon and in conformity with information relating to such Selling Stockholder as required by Item 7 of Form S-3 furnished in writing by or on behalf of such Selling Stockholder expressly for use in the Registration Statement, the Time of Sale Prospectus, the Prospectus or any amendment or supplement thereto (the “**Selling Stockholder Information**”).

(b) This Agreement has been duly authorized, executed and delivered by or on behalf of such Selling Stockholder.

(c) The execution and delivery of this Agreement and the sale and delivery of the Shares to be sold by such Selling Stockholder and the consummation of the transactions contemplated herein and compliance by such Selling Stockholder with its obligations hereunder do not and will not, whether with or without the giving of notice or passage of time or both, (A) conflict with or constitute a breach of, or default under, or result in the creation or imposition of any lien, charge or encumbrance upon the Shares to be sold by such Selling Stockholder or any property or assets of such Selling Stockholder pursuant to any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, license, lease or other agreement or instrument to which such Selling Stockholder is a party or by which such Selling Stockholder may be bound, or to which any of the property or assets of such Selling Stockholder is subject, (B) result in any violation of the provisions of the charter or by-laws or other organizational instrument of such Selling Stockholder, if applicable, or (C) result in any violation of any applicable treaty, law, statute, rule, regulation, judgment, order, writ or decree of any government, government instrumentality or court, domestic or foreign, having jurisdiction over such Selling Stockholder or any of its properties, except, in the case of (A) and (C), (x) for such breaches and violations that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Change and (y) as would not, singly or in the aggregate, affect the

validity of the Shares to be sold by such Selling Stockholder or reasonably be expected to materially impact such Selling Stockholder's ability to perform its obligations under this Agreement.

(d) Such Selling Stockholder has, and on the Closing Date or the applicable Option Closing Date (as defined below), as the case may be, will have, valid title to the Shares to be sold by such Selling Stockholder free and clear of all security interests, claims, liens, equities or other encumbrances and the legal right and power, and all authorization and approval required by law, to enter into this Agreement and to sell, transfer and deliver the Shares to be sold by such Selling Stockholder or a valid security entitlement in respect of such Shares.

(e) Upon payment of the purchase price for the Shares to be sold by such Selling Stockholder pursuant to this Agreement, delivery of such Shares, as directed by the Underwriters, to Cede & Co. ("**Cede**") or such other nominee as may be designated by The Depository Trust Company ("**DTC**") (unless delivery of such Shares is unnecessary because such Shares are already in possession of Cede or such nominee), registration of such Shares in the name of Cede or such other nominee (unless registration of such Shares is unnecessary because such Shares are already registered in the name of Cede or such nominee), and the crediting of such Shares on the books of DTC to securities accounts (within the meaning of Section 8-501(a) of the UCC) of the Underwriters (assuming that neither DTC nor the Underwriters has notice of any "adverse claim," within the meaning of Section 8-105 of the Uniform Commercial Code then in effect in the State of New York ("UCC"), to such Shares), (i) under Section 8-501 of the UCC, the Underwriters will acquire a valid "security entitlement" in respect of such Shares and (ii) no action (whether framed in conversion, replevin, constructive trust, equitable lien, or other theory) based on any "adverse claim," within the meaning of Section 8-102 of the UCC, to such Shares may be asserted against the Underwriters with respect to such security entitlement; for purposes of this representation, such Selling Stockholder may assume that when such payment, delivery (if necessary) and crediting occur, (i) such Shares will have been registered in the name of Cede or another nominee designated by DTC, in each case on the Company's share registry in accordance with its certificate of incorporation, bylaws and applicable law, (ii) DTC will be registered as a "clearing corporation," within the meaning of Section 8-102 of the UCC, (iii) appropriate entries to the accounts of the Underwriters on the records of DTC will have been made pursuant to the UCC, (iv) to the extent DTC, or any other securities intermediary which acts as "clearing corporation" with respect to the Shares, maintains any "financial asset" (as defined in Section 8-102(a)(9) of the UCC) in a clearing corporation pursuant to Section 8-111 of the UCC, the rules of such clearing corporation may affect the rights of DTC or such securities intermediaries and the ownership interest of the Underwriters, (v) claims of creditors of DTC or any other securities intermediary or clearing corporation may be given priority to the extent set forth in Section 8-511(b) and 8-511(c) of the UCC and (vi) if at any time DTC or other securities intermediary does not have sufficient Shares to satisfy claims of all of its entitlement holders with respect thereto then all holders will share pro rata in the Shares then held by DTC or such securities intermediary.

(f) Such Selling Stockholder has not taken, and will not take, directly or indirectly, any action which is designed to or which constituted or would be expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(g) [Reserved].

(h) No filing with, or consent, approval, authorization, order, registration, qualification or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency, domestic or foreign, is necessary or required for the performance by each Selling Stockholder of its obligations hereunder, or in connection with the sale and delivery of the Shares hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required under the Securities Act and the applicable rules and regulations of the Commission thereunder, the rules of the New York Stock Exchange, state securities laws or the rules of FINRA.

(i) Such Selling Stockholder is not (i) an employee benefit plan as defined in and subject to ERISA, (ii) a plan or account subject to Section 4975 of the Code, or (iii) an entity deemed to hold "plan assets" of any such plan or account under Section 3(42) of ERISA, 29 C.F.R. 2510.3-101, or otherwise.

(j) (i) None of such Selling Stockholder, or any director or officer thereof, is a Person that is, or is owned or controlled by one or more Persons that are:

(a) the subject of any Sanctions, or

(b) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Crimea, Cuba, Iran, North Korea and Syria).

(ii) Such Selling Stockholder will not, 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:

(a) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(b) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(iii) Such Selling Stockholder is not now and for the past five years has not knowingly engaged in any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(k) (i) None of such Selling Stockholder, or any director or officer thereof, or, to the knowledge of such Selling Stockholder, any employee thereof, has taken any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any Government Official, or to any person in violation of any applicable anti-bribery and anti-corruption laws; (ii) such Selling Stockholder has conducted its businesses in compliance with applicable anti-bribery and anti-corruption laws and has instituted and maintains policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and (iii) the Selling Stockholder will not use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(l) The operations of such Selling Stockholder is presently in material compliance with all applicable 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 such Selling Stockholder with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Selling Stockholder, threatened.

(m) If such Selling Stockholder is not a natural person, such Selling Stockholder is subject to civil and commercial law with respect to its obligations under this Agreement and the execution, delivery and performance of this Agreement by it constitutes private and commercial acts rather than public or governmental acts. It does not have immunity (sovereign or otherwise) from set-off, the jurisdiction of any court or any legal process in any court (whether through service of notice, attachment prior to judgment, attachment in aid of execution, execution or otherwise).

(n) Each of the Selling Stockholders organized in a jurisdiction outside of the United States (each, a **“Non-U.S. Selling Stockholder”**) represents that no stamp duties or other issuance or transfer taxes are payable by or on behalf of the Underwriters in such Selling Stockholder’s jurisdiction of organization or any political subdivision or taxing authority thereof solely in connection with (A) the execution, delivery and performance of this Agreement, (B) the sale and delivery of the Shares in the manner contemplated by this Agreement and the Prospectus or (C) the sale and delivery by the Underwriters of the Shares as contemplated herein and in the Prospectus.

(o) Each Non-U.S. Selling Stockholder represents that any final judgment for a fixed or determined sum of money rendered by any U.S. federal or New York state court located in the State of New York having jurisdiction under its own laws in respect of any suit, action or proceeding against such Selling Stockholder based upon this Agreement would be declared enforceable against the Company by the courts of the Isle of Man, without reconsideration or reexamination of the merits.

(p) Each Non-U.S. Selling Stockholder represents that (A) the choice of laws of the State of New York as the governing law of this Agreement is a valid choice of law under the laws of the Isle of Man, and will be honored by the courts of the Isle of Man; and (B) such Selling Stockholder has the power to submit, and pursuant to Section 12 of this Agreement, has legally, validly, effectively and irrevocably submitted, to the personal jurisdiction of each New York state and United States federal court sitting in the City of New York and has validly and irrevocably waived any objection to the laying of venue of any suit, action or proceeding brought in such court.

3. *Agreements to Sell and Purchase.* Each of the Selling Stockholders, severally and not jointly, hereby agrees to sell to the several Underwriters, and each Underwriter, upon the basis of the representations and warranties herein contained, but subject to the conditions hereinafter stated, agrees, severally and not jointly, to purchase from such Selling Stockholders at \$13.44 a share (the "**Purchase Price**") the respective number of Firm Shares (subject to such adjustments to eliminate fractional shares as you may determine) that bears the same proportion to the number of Firm Shares to be sold by such Selling Stockholder as the number of Firm Shares set forth in Schedule II hereto opposite the name of such Underwriter bears to the total number of Firm Shares.

On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, each of the Selling Stockholders agrees, severally and not jointly, to sell to the Underwriters the Additional Shares, and the Underwriters shall have the right to purchase, severally and not jointly, up to 1,875,000 Additional Shares at the Purchase Price, provided, however, that the amount paid by the Underwriters for any Additional Shares shall be reduced by an amount per share equal to any dividends declared by the Company and payable on the Firm Shares but not payable on such Additional Shares. The Representatives may exercise this right on behalf of the Underwriters in whole or from time to time in part by giving written notice not later than 30 days after the date of this Agreement. Any exercise notice shall specify the number of Additional Shares to be purchased by the Underwriters and the date on which such shares are to be purchased. Each purchase date must be at least one business day after the written notice is given and may not be earlier than the closing date for the Firm Shares nor later than ten business days after the date of such notice. On each day, if any, that Additional Shares are to be purchased (an "**Option Closing Date**"), each Underwriter agrees, severally and not jointly, to purchase the number of Additional Shares (subject to such adjustments to eliminate fractional shares as you may determine) that bears the same proportion to the total number of Additional Shares to be purchased on such Option Closing Date as the number of Firm Shares set forth in Schedule II hereto opposite the name of such Underwriter bears to the total number of Firm Shares.

4. *Terms of Public Offering.* The Selling Stockholders are advised by you that the Underwriters propose to make a public offering of their respective portions of the Shares as soon after the Registration Statement and this Agreement have become effective as in your judgment is advisable. The Selling Stockholders are further advised by you that the Shares are to be offered to the public initially at \$14.00 a share (the “**Public Offering Price**”) and to certain dealers selected by you at a price that represents a concession not in excess of \$0.3360 a share under the Public Offering Price.

5. *Payment and Delivery.* Payment for the Firm Shares to be sold by each Selling Stockholder shall be made to such Selling Stockholder in Federal or other funds immediately available in New York City against delivery of such Firm Shares for the respective accounts of the several Underwriters at approximately 10:00 a.m., New York City time, on May 3, 2021, or at such other time on the same or such other date as shall be designated in writing by you. The time and date of such payment are hereinafter referred to as the “**Closing Date.**”

Payment for any Additional Shares to be sold by each Selling Stockholder shall be made to such Selling Stockholder in Federal or other funds immediately available in New York City against delivery of such Additional Shares for the respective accounts of the several Underwriters at approximately 10:00 a.m., New York City time, on the date specified in the corresponding notice described in Section 3 or at such other time on the same or on such other date, in any event not later than June 2, 2021, as shall be designated in writing by you.

The Firm Shares and Additional Shares shall be registered in such names and in such denominations as you shall request in writing not later than one full business day prior to the Closing Date or the applicable Option Closing Date, as the case may be. The Firm Shares and Additional Shares shall be delivered to you on the Closing Date or an Option Closing Date, as the case may be, for the respective accounts of the several Underwriters, with any transfer taxes payable in connection with the transfer of the Shares to the Underwriters duly paid, against payment of the Purchase Price therefor.

6. *Conditions to the Underwriters’ Obligations.* The several obligations of the Selling Stockholders to sell the Shares to the Underwriters and the several obligations of the Underwriters to purchase and pay for the Shares on the Closing Date are subject to the condition that the Registration Statement shall have become effective not later than 5:00 p.m. (New York City time) on the date hereof.

The several obligations of the Underwriters are subject to the following further conditions:

(a) No order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose or pursuant to Section 8A under the Securities Act shall be pending before or threatened by the

Commission; the Prospectus and each free writing prospectus shall have been timely filed with the Commission under the Securities Act (in the case of a free writing prospectus, to the extent required by Rule 433 under the Securities Act) and in accordance with Section 7 hereof.

(b) The respective representations and warranties of the Company and the Selling Stockholders contained herein shall be true and correct on the date hereof and on and as of the Closing Date;

(c) Subsequent to the execution and delivery of this Agreement and prior to the Closing Date:

there shall not have occurred any downgrading, nor shall any notice have been given of any intended or potential downgrading or of any review for a possible change that does not indicate the direction of the possible change, in the rating accorded any of the securities of the Company or any of its subsidiaries by any “nationally recognized statistical rating organization,” as such term is defined in Section 3(a)(62) of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”); and

there shall not have occurred any change, or any development involving a prospective change, in the condition, financial or otherwise, or in the earnings, business or operations of the Company and its subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus that, in your judgment, is material and adverse and that makes it, in your judgment, impracticable to market the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus.

(d) The Underwriters shall have received on the Closing Date (i) a certificate, dated the Closing Date and signed by an executive officer of the Company, to the effect set forth in Section 6(c)(i) above and to the effect that the representations and warranties of the Company contained in this Agreement are true and correct as of the Closing Date and that the Company has complied in all material respects with all of the agreements and satisfied all of the conditions on its part to be performed or satisfied hereunder on or before the Closing Date and (ii) a certificate of each of the Selling Stockholders, dated the Closing Date, to the effect that the representations and warranties of each Selling Stockholder in this Agreement are true and correct as of the Closing Date and that each Selling Stockholder has complied in all material respects with all of the agreements and satisfied all of the conditions on its part to be performed or satisfied hereunder on or before the Closing Date.

The individuals signing and delivering such certificate may rely upon his or her knowledge as to proceedings threatened.

(e) The Underwriters shall have received on the Closing Date an opinion and a negative assurance letter of Ropes & Gray LLP, outside counsel for the Company, dated the Closing Date, in each case in form and substance reasonably satisfactory to counsel for the Underwriters.

(f) The Underwriters shall have received on the Closing Date an opinion of the General Counsel for the Company, dated the Closing Date, in form and substance reasonably satisfactory to counsel for the Underwriters.

(g) The Underwriters shall have received on the Closing Date an opinion and a negative assurance letter of Latham & Watkins LLP, counsel for the Underwriters, dated the Closing Date, in each case in form and substance reasonably satisfactory to you.

(h) The Underwriters shall have received on the Closing Date an opinion of each of (i) Ropes & Gray LLP, counsel for CCMP, (ii) Cravath, Swaine & Moore LLP, counsel for INEOS and (iii) Cains Advocates Limited, Isle of Man counsel for INEOS, dated the Closing Date, in each case in form and substance reasonably satisfactory to counsel for the Underwriters.

With respect to Section 6(e), Section 6(g) and 6(h) above, Ropes & Gray LLP, Latham & Watkins LLP, Cravath, Swaine & Moore LLP and Cains Advocates Limited may state that their opinions and beliefs are based upon their participation in the preparation of the Registration Statement, the Time of Sale Prospectus and the Prospectus and any amendments or supplements thereto and review and discussion of the contents thereof, but are without independent check or verification, except as specified.

The opinions of Ropes & Gray LLP, Cravath, Swaine & Moore LLP and Cains Advocates Limited described in Section 6(e) and 6(h) above shall be rendered to the Underwriters at the request of the Company and shall so state therein.

(i) The Underwriters shall have received, on each of the date hereof and the Closing Date, two letters each dated the date hereof or the Closing Date, as the case may be, in form and substance satisfactory to the Underwriters, from PwC, independent public accountants, containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus; *provided* that such letters delivered on the Closing Date shall use a "cut-off date" not earlier than the date hereof.

(j) The Underwriters shall have received, on each of the date hereof and the Closing Date, a certificate dated the date hereof or the Closing Date, as the case may be, and signed by the Chief Financial Officer of the Company, containing statements and information with respect to certain financial information contained or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(k) The “lock-up” agreements, each substantially in the form of Exhibit A hereto, between you and certain stockholders, officers and directors of the Company, including the Selling Stockholders, relating to sales and certain other dispositions of shares of Common Stock or certain other securities, delivered to you on or before the date hereof, shall be in full force and effect on the Closing Date.

(l) The Underwriters shall have received on the Closing Date such other documents as they may reasonably request from the Company and the Selling Stockholders with respect to the good standing of the Company and certain of its subsidiaries as agreed to and reasonably satisfactory to counsel for the Underwriters, the due authorization of the Shares to be sold on the Closing Date and other matters related to the sale of such Shares.

(m) The several obligations of the Underwriters to purchase Additional Shares hereunder are subject to the satisfaction of the conditions set forth in Sections 6(a), 6(b) and 6(c) above as of the applicable Option Closing Date and the delivery to you on such Option Closing Date of the following:

- (i) a certificate, dated the Option Closing Date and signed by an executive officer of the Company, confirming that the certificate delivered on the Closing Date pursuant to Section 6(d) hereof remains true and correct as of such Option Closing Date and (y) a certificate, dated the Option Closing date and signed by a representative of each of the Selling Stockholders, confirming that the certificate delivered on the Closing Date pursuant to Section 6(d) hereof remains true and correct as of such Option Closing Date;
- (ii) an opinion of Ropes & Gray LLP, outside counsel for the Company, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 6(e) hereof;
- (iii) an opinion of the General Counsel for the Company, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 6(f) hereof;
- (iv) an opinion of Latham & Watkins LLP, counsel for the Underwriters, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 6(g) hereof;
- (v) an opinion of each of (i) Ropes & Gray LLP, outside counsel for CCMP, (ii) Cravath, Swaine & Moore LLP, counsel for INEOS and (iii) Cains Advocates Limited, Isle of Man counsel for INEOS, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 6(h) hereof;

(vi) two letters each dated the Option Closing Date, in form and substance satisfactory to the Underwriters, from PwC, independent public accountants, substantially in the same form and substance as the letter furnished to the Underwriters pursuant to Section 6(i) hereof; *provided* that such letters delivered on the Option Closing Date shall use a “cut-off date” not earlier than two business days prior to such Option Closing Date;

(vii) a certificate dated the Option Closing Date, signed by the Chief Financial Officer of the Company, substantially in the same form and substance as the certificate delivered to the Underwriters pursuant to Section 6(j) hereof; and

(viii) such other documents as you may reasonably request from the Company and the Selling Stockholders with respect to the good standing of the Company and certain of its subsidiaries as agreed to and reasonably satisfactory to counsel for the Underwriters, the due authorization of the Additional Shares to be sold on such Option Closing Date and other matters related to the sale of such Additional Shares.

7. *Covenants of the Company.* The Company covenants with each Underwriter as follows:

(a) To furnish to you, without charge and upon request, three signed copies of the Registration Statement (including exhibits thereto and documents incorporated by reference) and for delivery to each other Underwriter a conformed copy of the Registration Statement (without exhibits thereto but including documents incorporated by reference) and to furnish to you in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period mentioned in Section 7(f) or 7(g) below, as many copies of the Time of Sale Prospectus, the Prospectus, any documents incorporated therein by reference and any supplements and amendments thereto or to the Registration Statement as you may reasonably request.

(b) Before amending or supplementing the Registration Statement, the Time of Sale Prospectus or the Prospectus, to furnish to you a copy of each such proposed amendment or supplement and not to file any such proposed amendment or supplement to which you reasonably object in writing, and in a timely manner, to Ropes & Gray LLP, and to file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(c) To furnish to you a copy of each proposed free writing prospectus to be prepared by or on behalf of, used by, or referred to by the Company and not to use or refer to any proposed free writing prospectus to which you reasonably object.

(d) Not to take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Underwriter that the Underwriter otherwise would not have been required to file thereunder.

(e) To advise the Representatives promptly, (i) when the Registration Statement has become effective; (ii) when any amendment to the Registration Statement has been filed or becomes effective; (iii) when any supplement to the Prospectus or any free writing prospectus or any amendment to the Prospectus has been filed or distributed; (iv) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or the receipt of any comments from the Commission relating to the Registration Statement or any other request by the Commission for additional information; (v) of the issuance by the Commission or any other governmental or regulatory authority of any order suspending the effectiveness of the Registration Statement or preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or the initiation or threatening of any proceeding for that purpose or pursuant to Section 8A of the Securities Act; and (vi) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Shares for offer and sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; and to use its reasonable best efforts to prevent the issuance of any such order suspending the effectiveness of the Registration Statement, preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or suspending any such qualification of the Shares and, if any such order is issued, will obtain as soon as possible the withdrawal thereof.

(f) If the Time of Sale Prospectus is being used to solicit offers to buy the Shares at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus in order to make the statements therein, in the light of the circumstances, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement then on file, or if, in the reasonable opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, forthwith, subject to Section 7(b) above, to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not, in the light of the circumstances when the Time of Sale

Prospectus is delivered to a prospective purchaser, be misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(g) If, during such period after the first date of the public offering of the Shares as in the reasonable opinion of counsel for the Underwriters the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is required by law to be delivered in connection with sales by an Underwriter or dealer, any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, not misleading, or if, in the reasonable opinion of counsel for the Underwriters, it is necessary to amend or supplement the Prospectus to comply with applicable law, forthwith, subject to Section 7(b) above, to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to the dealers (whose names and addresses you will furnish to the Company) to which Shares may have been sold by you on behalf of the Underwriters and to any other dealers upon request, either amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, be misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law.

(h) To use its commercially reasonable efforts to qualify the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions as you shall reasonably request; provided, however, that nothing contained herein shall require the Company to qualify to do business in any jurisdiction, to execute a general consent to service of process in any jurisdiction or to subject itself to taxation in any jurisdiction in which it is not otherwise subject.

(i) To make generally available to the Company's security holders and to you as soon as practicable an earnings statement covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the date of this Agreement which shall satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder; provided that the Company will be deemed to have furnished such statement to its security holders to the extent it is filed on the Commission's Electronic Data Gathering, Analysis and Retrieval system ("**EDGAR**").

(j) If any Selling Stockholder is not a U.S. person for U.S. federal income tax purposes, the Company will deliver to each Underwriter (or its agent), on or before the Closing Date, (i) a certificate with respect to the Company's status as a "United States real property holding corporation," dated not more than

thirty (30) days prior to the Closing Date, as described in Treasury Regulations Sections 1.897-2(h) and 1.1445-2(c)(3), and (ii) proof of delivery to the IRS of the required notice, as described in Treasury Regulations 1.897-2(h)(2).

(a) Not to take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation of the price of the Shares to facilitate the sale or resale of the Shares.

The Company also covenants with each Underwriter that, without the prior written consent of the Representatives, on behalf of the Underwriters, it will not, during the period ending 90 days after the date of the Prospectus (the "**Restricted Period**"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise or (3) file any registration statement with the Commission relating to the offering of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock.

The restrictions contained in the preceding paragraph shall not apply to (a) the Shares to be sold hereunder, (b) the issuance by the Company of shares of Common Stock upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof, (c) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that (i) such plan does not provide for the transfer of Common Stock during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required or voluntarily made by the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Restricted Period, (d) any stock based awards granted under Company employee benefit plans described in the Prospectus, (e) filings on Form S-8 relating to the Company employee benefit plans described in the Prospectus and (f) the entry into an agreement providing for the issuance of Common Stock or any securities convertible into or exercisable for Common Stock, and the issuance of any such securities pursuant to such an agreement, in connection with (i) the acquisition by the Company or any of its subsidiaries of the securities, business, property or other assets of another person or entity, including pursuant to an employee benefit plan assumed by the Company in connection with such acquisition, or (ii) joint ventures, commercial relationships or other strategic transactions, *provided* that the aggregate number of shares of Common Stock issued or issuable pursuant to this clause (f) shall not exceed 5% of the total number of shares of Common Stock issued and outstanding immediately following the offering of the Shares pursuant to this Agreement and provided further that the Company shall cause each recipient of such shares to execute and deliver to the Representatives, on or prior to such issuance, a "lock-up" agreement, substantially in the form of Exhibit A hereto.

8. *Covenants of the Selling Stockholders.* Each Selling Stockholder, severally and not jointly, covenants with each Underwriter as follows:

(a) Each Selling Stockholder will deliver to each Underwriter (or its agent), prior to or at the Closing Date, a properly completed and executed Internal Revenue Service (“IRS”) Form W-9 or an IRS Form W-8, as appropriate.

(b) Each Selling Stockholder will deliver to each Underwriter (or its agent), on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and each Selling Stockholder undertakes to provide such additional supporting documentation as each Underwriter may reasonably request in connection with the verification of the foregoing Certification.

9. *Expenses.* Whether or not the transactions contemplated in this Agreement are consummated or this Agreement is terminated, the Company and each of the Selling Stockholders agree with one another that the Company will pay or cause to be paid all expenses incident to the performance of their obligations under this Agreement, including: 1. the fees, disbursements and expenses of the Company’s counsel, the Company’s accountants and counsel for the Selling Stockholders in connection with the registration and delivery of the Shares under the Securities Act and all other fees or expenses in connection with the preparation and filing of the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company and amendments and supplements to any of the foregoing, including all printing costs associated therewith, and the mailing and delivering of copies thereof to the Underwriters and dealers, in the quantities hereinabove specified, 2. all costs and expenses related to the transfer and delivery of the Shares to the Underwriters, except that the Selling Stockholders will pay or cause to be paid any transfer or other taxes payable thereon, 3. all costs and expenses incident to listing the Shares on the New York Stock Exchange, (iv) the cost of printing or producing any Blue Sky or Legal Investment memorandum in connection with the offer and sale of the Shares under state securities laws and all expenses in connection with the qualification of the Shares for offer and sale under state securities laws as provided in Section 7(h) hereof, including filing fees and the reasonable and documented fees and disbursements of counsel for the Underwriters (not to exceed \$10,000) in connection with such qualification and in connection with the Blue Sky or Legal Investment memorandum, (v) all filing fees and the reasonable and documented fees and disbursements of counsel to the Underwriters (not to exceed \$25,000) incurred in connection with the review and qualification of the offering of the Shares by the Financial Industry Regulatory Authority, (vi) the cost of printing certificates representing the Shares, (vii) the costs and charges of any transfer agent, registrar or depository, (viii) the costs and expenses of the Company relating to investor presentations on any “road show” undertaken in connection with the marketing of the offering of the Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged by the Company in

connection with the road show presentations, travel and lodging expenses of the officers and consultants of the Company, (ix) the document production charges and expenses associated with printing this Agreement and (x) all other costs and expenses incident to the performance of the obligations of the Company hereunder for which provision is not otherwise made in this Section. It is understood, however, that except as provided in this Section 9, Section 10 and Section 14 below, the Underwriters will pay all of their costs and expenses, including fees and disbursements of their counsel, travel and lodging expenses of the Underwriters, stock transfer taxes payable on resale of any of the Shares by them and any advertising expenses connected with any offers they may make.

10. *Covenants of the Underwriters.* Each Underwriter, severally and not jointly, covenants with the Company not to take any action that would result in the Company being required to file with the Commission under Rule 433(d) a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not be required to be filed by the Company thereunder, but for the action of the Underwriter.

11. *Indemnity and Contribution.* (a) The Company agrees to indemnify and hold harmless each Underwriter and each Selling Stockholder, each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act and each director, officer and affiliate of any Underwriter or Selling Stockholder within the meaning of Rule 405 under the Securities Act from and against any and all losses, claims, damages and liabilities (including, without limitation, any legal or other expenses reasonably incurred in connection with defending or investigating any such action or claim) caused by any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or any amendment thereof, any preliminary prospectus, the Time of Sale Prospectus or any amendment or supplement thereto, any issuer free writing prospectus as defined in Rule 433(h) under the Securities Act, any Company information that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act, any road show as defined in Rule 433(h) under the Securities Act (a "road show"), or the Prospectus or any amendment or supplement thereto, caused by, (i) in the case of any preliminary prospectus, the Time of Sale Prospectus or any amendment or supplement thereto, any issuer free writing prospectus as defined in Rule 433(h) under the Securities Act, any Company information that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act, or any road show, any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, and (ii) in the case of the Registration Statement or any amendment thereof, any 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 except insofar as such losses, claims, damages or liabilities are caused by any such untrue statement or omission or alleged untrue statement or omission based upon (A) in respect of the indemnity in favor of the Underwriters, information relating to any Underwriter furnished to the Company in writing by or on behalf of such Underwriter or through you expressly for use therein or (B) in respect of the indemnity in favor of the Selling Stockholders, information relating to such Selling Stockholder furnished in writing by or on behalf of such Selling Stockholder expressly for use therein.

(b) Each Selling Stockholder agrees, severally and not jointly, to indemnify and hold harmless the Underwriters, each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act and each director, officer and affiliate of any Underwriter within the meaning of Rule 405 under the Securities Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, any legal or other expenses reasonably incurred in connection with defending or investigating any such action or claim) that arise out of, or are based upon, any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or any amendment thereof, any preliminary prospectus, the Time of Sale Prospectus or any amendment or supplement thereto, any issuer free writing prospectus as defined in Rule 433(h) under the Securities Act, any Company information that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act, any road show, the Prospectus or any amendment or supplement thereto, or arise out of, or are based upon, any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; *provided* that each Selling Stockholder shall be liable only to the extent any of the foregoing is in reliance upon and in conformity with the Selling Stockholder Information; *provided, further*, that the liability under this subsection of each Selling Stockholder shall be limited to an amount equal to the aggregate gross proceeds after underwriting commissions and discounts, but before expenses, to such Selling Stockholder from the sale of Shares sold by such Selling Stockholder hereunder.

(c) Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, the Selling Stockholders, the Company's directors, its officers who sign the Registration Statement and each person, if any, who controls the Company or any Selling Stockholder within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the foregoing indemnity from the Company to such Underwriter, but only with reference to information relating to such Underwriter furnished to the Company in writing by or on behalf of such Underwriter or through you expressly for use therein, it being understood and agreed upon that the only such information furnished consists of the following information in the Prospectus: the third, ninth and tenth paragraphs in the section titled "Underwriters."

(d) In case any proceeding (including any governmental investigation) shall be instituted involving any person in respect of which indemnity may be sought pursuant to Section 11(a), 11(b) or 11(c), such person (the "**indemnified party**") shall promptly notify the person against whom such indemnity may be sought (the "**indemnifying party**") in writing and the indemnifying party, upon request of the indemnified party, shall retain counsel reasonably satisfactory to the indemnified party to represent the indemnified party and any others the indemnifying party may designate in such proceeding and shall pay the reasonable fees and disbursements of such counsel related to such proceeding. In any such proceeding, any indemnified party shall have the right to retain its own

counsel, but the fees and expenses of such counsel shall be at the expense of such indemnified party unless (i) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (ii) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them or (iii) the indemnifying party has failed within a reasonable time to retain counsel reasonably satisfactory to the indemnified party. It is understood that the indemnifying party shall not, in respect of the legal expenses of any indemnified party in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the fees and expenses of more than one separate firm (in addition to any local counsel) for all such indemnified parties and that all such fees and expenses shall be reimbursed as they are incurred. In the case of any such separate firm for the Underwriters and such control persons and affiliates of any Underwriters, such firm shall be designated in writing by the Underwriters. In the case of any such separate firm for the Company, and such directors, officers and control persons of the Company, such firm shall be designated in writing by the Company. In the case of any such separate firm for the Selling Stockholders and such controls persons of the Selling Stockholders, such firm shall be designated in writing by the Selling Stockholders. The indemnifying party shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any loss or liability by reason of such settlement or judgment. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes (i) an unconditional release of such indemnified party from all liability on claims that are the subject matter of such proceeding 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.

(e) To the extent the indemnification provided for in Section 11(a), 11(b) or 11(c) is unavailable to an indemnified party or insufficient in respect of any losses, claims, damages or liabilities referred to therein (other than as a result of the limitation on indemnification provided for therein), then each indemnifying party under such paragraph, in lieu of indemnifying such indemnified party thereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the indemnifying party or parties, on the one hand, and the indemnified party or parties, on the other hand, from the offering of the Shares or (ii) if the allocation provided by clause 11(e)(i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause 11(e)(i) above but also the relative fault of the indemnifying party or parties, on the one hand, and of the indemnified party or parties, on the other hand, in

connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Selling Stockholders, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Shares shall be deemed to be in the same respective proportions as the net proceeds from the offering of the Shares (before deducting expenses) received by each Selling Stockholder and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate Public Offering Price of the Shares. The relative fault of the Company and the Selling Stockholders, on the one hand, and the Underwriters on the other hand 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 and the Selling Stockholders or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Underwriters' respective obligations to contribute pursuant to this Section 11 are several in proportion to the respective number of Shares they have purchased hereunder, and not joint.

(f) The Company, the Selling Stockholders and the Underwriters agree that it would not be just or equitable if contribution pursuant to this Section 11 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 that does not take account of the equitable considerations referred to in Section 11(e). The amount paid or payable by an indemnified party as a result of the losses, claims, damages and liabilities referred to in Section 11(e) shall be deemed to include, subject to the limitations set forth above, 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 Section 11, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares that were underwritten by it were offered to the public exceeds the amount of any damages that 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 Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The remedies provided for in this Section 11 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any indemnified party at law or in equity.

(g) The indemnity and contribution provisions contained in this Section 11 and the representations, warranties and other statements of the Company and the Selling Stockholders contained in this Agreement and the agreements regarding expense reimbursement shall remain operative and in full force and effect regardless of (i) any termination of this Agreement, (ii) any investigation made by or on behalf of any Underwriter, any person controlling any Underwriter or any director, officer or affiliate of any Underwriter, or by or

on behalf of the Selling Stockholder or any person controlling the Selling Stockholder, or by or on behalf of the Company, its officers or directors or any person controlling the Company and (iii) acceptance of and payment for any of the Shares.

12. *Submission to Jurisdiction; Appointment of Agents for Service* (a) The Company and each of the Selling Stockholders irrevocably submits to the non-exclusive jurisdiction of any New York State or United States Federal court sitting in The City of New York (the “**Specified Courts**”) over any suit, action or proceeding arising out of or relating to this Agreement, the Time of Sale Prospectus, the Prospectus, the Registration Statement or the offering of the Shares (each, a “**Related Proceeding**”). The Company and each of the Selling Stockholders irrevocably waives, to the fullest extent permitted by law, any objection which it may now or hereafter have to the laying of venue of any Related Proceeding brought in such a court and any claim that any such Related Proceeding brought in such a court has been brought in an inconvenient forum. To the extent that any Non-U.S. Selling Stockholder has or hereafter may acquire any immunity (on the grounds of sovereignty or otherwise) from the jurisdiction of any court or from any legal process with respect to itself or its property, such Non-U.S. Selling Stockholder irrevocably waives, to the fullest extent permitted by law, such immunity in respect of any such suit, action or proceeding. Each Non-U.S. Selling Stockholder hereby irrevocably appoints INEOS USA LLC, with offices at 2600 South Shore Boulevard, Suite 500, League City, Texas 77573-2944, as its agent for service of process in any Related Proceeding and agrees that service of process in any such Related Proceeding may be made upon it at the office of such agent. Each of the Selling Stockholders waives, to the fullest extent permitted by law, any other requirements of or objections to personal jurisdiction with respect thereto. Each of the Non-U.S. Selling Stockholders represents and warrants that such agent has agreed to act as the Selling Stockholders’ agent for service of process, and each of the Non-U.S. Selling Stockholders agrees to take any and all action, including the filing of any and all documents and instruments, that may be necessary to continue such appointment in full force and effect.

13. *Judgment Currency*. If for the purposes of obtaining judgment in any court it is necessary to convert a sum due hereunder into any currency other than United States dollars, the parties hereto agree, to the fullest extent permitted by law, that the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Underwriters could purchase United States dollars with such other currency in The City of New York on the business day preceding that on which final judgment is given. The obligation of the Company or any Selling Stockholder with respect to any sum due from it to any Underwriter or any person controlling any Underwriter shall, notwithstanding any judgment in a currency other than United States dollars, not be discharged until the first business day following receipt by such Underwriter or controlling person of any sum in such other currency, and only to the extent that such Underwriter or controlling person may in accordance with normal banking procedures purchase United States dollars with such other currency. If the United States dollars so purchased are less than the sum originally due to such Underwriter or controlling person hereunder, each of the Non-U.S. Selling Stockholders agrees as a separate obligation and notwithstanding any such judgment, to indemnify such Underwriter or controlling person

against such loss. If the United States dollars so purchased are greater than the sum originally due to such Underwriter or controlling person hereunder, such Underwriter or controlling person agrees to pay to the relevant Non-U.S. Selling Stockholder(s), as applicable, an amount equal to the excess of the dollars so purchased over the sum originally due to such Underwriter or controlling person hereunder.

14. *Taxes.* If any sum payable by a Selling Stockholder under this Agreement is subject to tax in the hands of an Underwriter or taken into account as a receipt in computing the taxable income of that Underwriter (excluding net income taxes on underwriting commissions payable hereunder), the sum payable to the Underwriter under this Agreement shall be increased to such sum as will ensure that the Underwriter shall be left with the sum it would have had in the absence of such tax, except to the extent that such taxes (a) were imposed due to some connection of an Underwriter with a taxing jurisdiction other than the mere entering into of this Agreement or receipt of payments hereunder or (b) would not have been imposed but for the failure of such Underwriter to comply with any reasonable certification, identification or other reporting requirements concerning the nationality, residence, identity or connection with a taxing jurisdiction of the Underwriter if such compliance is required or imposed by the applicable law as a precondition to an exemption from, or reduction in, such taxes.

15. *Termination.* The Underwriters may terminate this Agreement by notice given by you to the Company and the Selling Stockholders, if after the execution and delivery of this Agreement and prior to the Closing Date (i) trading generally shall have been suspended or materially limited on, or by, as the case may be, either of the New York Stock Exchange or the NASDAQ Global Market, (ii) trading of any securities of the Company shall have been suspended on any exchange or in any over-the-counter market, (iii) a material disruption in securities settlement, payment or clearance services in the United States shall have occurred, (iv) any moratorium on commercial banking activities shall have been declared by Federal or New York State authorities or (v) there shall have occurred any outbreak or escalation of hostilities, or any change in financial markets or any calamity or crisis that, in the Representatives' judgment, is material and adverse and which, singly or together with any other event specified in this clause (v), makes it, in the Representatives' judgment, impracticable or inadvisable to proceed with the offer, sale or delivery of the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus or the Prospectus.

16. *Effectiveness; Defaulting Underwriters.* This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

If, on the Closing Date or an Option Closing Date, as the case may be, any one or more of the Underwriters shall fail or refuse to purchase Shares that it has or they have agreed to purchase hereunder on such date, and the aggregate number of Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase is not more than one-tenth of the aggregate number of the Shares to be purchased on such date, the other Underwriters shall be obligated severally in the proportions that the number of Firm Shares set forth opposite their respective names in Schedule II bears to the aggregate number of Firm Shares set forth opposite the names of all such

non-defaulting Underwriters, or in such other proportions as you may specify, to purchase the Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date; *provided* that in no event shall the number of Shares that any Underwriter has agreed to purchase pursuant to this Agreement be increased pursuant to this Section 16 by an amount in excess of one-ninth of such number of Shares without the written consent of such Underwriter. If, on the Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Firm Shares and the aggregate number of Firm Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Firm Shares to be purchased on such date, and arrangements satisfactory to you, the Company and the Selling Stockholders for the purchase of such Firm Shares are not made within 36 hours after such default, this Agreement shall terminate without liability on the part of any non-defaulting Underwriter, the Company or the Selling Stockholders, except that the provisions of Section 11 hereof shall not terminate and shall remain in effect. In any such case either you or the Selling Stockholders shall have the right to postpone the Closing Date, but in no event for longer than seven days, in order that the required changes, if any, in the Registration Statement, in the Time of Sale Prospectus, in the Prospectus or in any other documents or arrangements may be effected. If, on an Option Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Additional Shares and the aggregate number of Additional Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Additional Shares to be purchased on such Option Closing Date, the non-defaulting Underwriters shall have the option to (i) terminate their obligation hereunder to purchase the Additional Shares to be sold on such Option Closing Date or (ii) purchase not less than the number of Additional Shares that such non-defaulting Underwriters would have been obligated to purchase in the absence of such default. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

If this Agreement shall be terminated by the Underwriters, or any of them, pursuant to Section 15(ii) hereof or because of any failure or refusal on the part of the Company or any Selling Stockholder to comply with the terms or to fulfill any of the conditions of this Agreement, or if for any reason the Company or any Selling Stockholder shall be unable to perform its obligations under this Agreement, the Company will reimburse the Underwriters or such Underwriters as have so terminated this Agreement with respect to themselves, severally, for all out-of-pocket expenses (including the reasonable and documented fees and disbursements of their counsel) reasonably incurred by such Underwriters in connection with this Agreement or the offering contemplated hereunder.

17. *Entire Agreement.* (a) This Agreement, together with any contemporaneous written agreements and any prior written agreements (to the extent not superseded by this Agreement) that relate to the offering of the Shares, represents the entire agreement between the Company and the Selling Stockholders, on the one hand, and the Underwriters, on the other, with respect to the preparation of any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, the conduct of the offering, and the purchase and sale of the Shares.

(b) The Company and each of the Selling Stockholders acknowledges that in connection with the offering of the Shares: (i) the Underwriters have acted at arm's length, are not agents of, and owe no fiduciary duties to, the Company, the Selling Stockholders or any other person, (ii) the Underwriters owe the Company and the Selling Stockholders only those duties and obligations set forth in this Agreement, together with any contemporaneous written agreements and any prior written agreements (to the extent not superseded by this Agreement) that relate to the offering of the Shares, and (iii) the Underwriters may have interests that differ from those of the Company and the Selling Stockholders. The Company and the Selling Stockholders waive to the full extent permitted by applicable law any claims it may have against the Underwriters arising from an alleged breach of fiduciary duty in connection with the offering of the Shares. Moreover, each Selling Stockholder acknowledges and agrees that, although the Representatives may be required or choose to provide certain Selling Stockholders with certain Regulation Best Interest and Form CRS disclosures or other related documentation in connection with the offering, the Representatives and the other Underwriters are not making a recommendation to any Selling Stockholder to participate in the offering, enter into a "lock-up" agreement, or sell any Shares at the price determined in the offering, and nothing set forth in such disclosures or documentation is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

18. *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.

19. For purposes of this Section a "**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. "**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.

20. *Counterparts.* This Agreement may be signed in two or more counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. The words "execution," "signed," "signature," "delivery," and words of like import in or relating to this Agreement or any document to be signed in connection with this Agreement shall be deemed to include electronic signatures, deliveries or the keeping of records in electronic form, each of which shall be of the same legal effect, validity or enforceability as a manually executed signature, physical delivery thereof or the use of a paper-based recordkeeping system, as the case may be, and the parties hereto consent to conduct the transactions contemplated hereunder by electronic means.

21. *Applicable Law.* This Agreement and any claim, controversy or dispute arising under or related to this Agreement shall be governed by and construed in accordance with the internal laws of the State of New York.

22. *Headings.* The headings of the sections of this Agreement have been inserted for convenience of reference only and shall not be deemed a part of this Agreement.

23. *Notices.* All communications hereunder shall be in writing and effective only upon receipt and (i) if to the Underwriters shall be delivered, mailed or sent to the Representatives c/o Citigroup Global Markets Inc., 388 Greenwich Street, New York, New York 10013, Attention: General Counsel, facsimile number: (646) 291-1469, and c/o Deutsche Bank Securities Inc., 60 Wall Street, New York, New York 10005, Attention: Equity Capital Markets Syndicate, with a copy to General Counsel, facsimile number: (646) 374-1071; (ii) if to the Company shall be delivered, mailed or sent to PQ Group Holdings Inc., 300 Lindenwood Drive, Malvern, Pennsylvania 19355, Attention: Joseph S. Kosciński; (iii) and if to the Selling Stockholders shall be delivered, mailed or sent to (i) CCMP Capital Investors III, L.P., CCMP Capital Investors III (Employee), L.P., CCMP Capital Investors III (AV-7), L.P., CCMP Capital Investors III (AV-8), L.P., CCMP Capital Investors III (AV-9), L.P., CCMP Capital Investors III (AV-10), L.P., and Quartz Co-Invest, L.P., 277 Park Avenue, New York, NY 10172, attention Mark McFadden with a copy to Richard Jansen, and (ii) INEOS Limited, c/o IQ EQ, Victoria Road, Douglas, IM2 4DF, Isle of Man.

[Signature pages follow]

Very truly yours,

PQ Group Holdings Inc.

By: /s/ Joseph S. Koscinski

Name: Joseph S. Koscinski

Title: Vice President, Secretary and General Counsel

CCMP Capital Investors III, L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh

Name: Timothy Walsh

Title: President and Chief Executive Officer

CCMP Capital Investors III (Employee), L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh

Name: Timothy Walsh

Title: President and Chief Executive Officer

CCMP Capital Investors III (AV-7), L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh
Name: Timothy Walsh
Title: President and Chief Executive Officer

CCMP Capital Investors III (AV-8), L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh
Name: Timothy Walsh
Title: President and Chief Executive Officer

CCMP Capital Investors III (AV-9), L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh
Name: Timothy Walsh
Title: President and Chief Executive Officer

CCMP Capital Investors III (AV-10), L.P.

By: CCMP Capital Associates III, L.P., its general partner

By: CCMP Capital Associates III GP, LLC, its general partner

By: /s/ Timothy Walsh

Name: Timothy Walsh

Title: President and Chief Executive Officer

Quartz Co-Invest, L.P.

By: CCMP Co-Invest III A GP, LLC, its general partner

By: /s/ Timothy Walsh

Name: Timothy Walsh

Title: President and Chief Executive Officer

INEOS Limited

By: /s/ Andrew Currie

Name: Andrew Currie

Title: Director

Accepted as of the date hereof

Citigroup Global Markets Inc.
Deutsche Bank Securities Inc.

Acting severally on behalf of themselves and the several
Underwriters named in Schedule II hereto.

By: Citigroup Global Markets Inc.

/s/ Nick Regas

Name: Nick Regas

Title: Managing Director Global Chemicals IB

By: Deutsche Bank Securities Inc.

/s/ Ben Selinger

Name: Ben Selinger

Title: Director

/s/ Justin Smolkin

Name: Justin Smolkin

Title: Managing Director

<u>Selling Stockholder</u>	<u>Number of Firm Shares To Be Sold</u>
CCMP Capital Investors III, L.P.	3,869,813
CCMP Capital Investors III (Employee), L.P.	392,244
CCMP Capital Investors III (AV-7), L.P.	1,179,824
CCMP Capital Investors III (AV-8), L.P.	66,749
CCMP Capital Investors III (AV-9), L.P.	1,334,416
CCMP Capital Investors III (AV-10), L.P.	87,434
Quartz Co-Invest, L.P.	1,233,530
INEOS Limited	4,335,990
Total:	<u>12,500,000</u>

Underwriter	Number of Firm Shares To Be Purchased
Citigroup Global Markets Inc.	3,125,000
Deutsche Bank Securities Inc.	3,125,000
Credit Suisse Securities (USA) LLC	1,625,000
BMO Capital Markets Corp.	1,062,500
Morgan Stanley & Co. LLC	1,062,500
Jefferies LLC	1,062,500
KeyBanc Capital Markets Inc.	1,062,500
C.L. King & Associates, Inc.	375,000
Total:	12,500,000

Time of Sale Prospectus:

1. The Prospectus, dated April 26, 2021 relating to the Shelf Securities.
2. The preliminary prospectus supplement, dated April 26, 2021 relating to the Shares.
3. Number of Shares: 12,500,000
4. Public Offering Price: \$14.00

III-1

Subsidiaries

ENTITY	JURISDICTION
PQ Holdings Inc.	Delaware
CPQ Midco I Corporation	Delaware
PQ Corporation	Pennsylvania
PQ Holdings I Limited	United Kingdom
PQ Intermediate Limited	United Kingdom
PQ Germany GmbH	Germany
PT PQ Silicas Indonesia	Indonesia
PQ Sweden A.B.	Sweden
PQ Finland Oy	Finland
PQ Silicas Holdings South Africa Pty Ltd.	South Africa
PQ Silicas South Africa Pty Ltd.	South Africa
PQ International Holdings Inc.	Delaware
PQ Netherlands Holding LLC	Delaware
PQ Silicas Asia Pacific Pte Ltd.	Singapore
PQ Silicates Ltd. ¹	Taiwan
PQ International C.V.	Netherlands
PQ Netherlands Cooperative LLC	Delaware
PQ International Coöperatie U.A.	Netherlands
PQ Silicas Brazil Ltda.	Brazil
PQ Canada Company	Canada
NSL Canada Company	Canada
National Silicates Partnership	Canada
PQ Europe Coöperatie U.A.	Netherlands
PQ Europe ApS	Denmark
PQ Silicas B.V.	Netherlands
PQ Zeolites B.V.	Netherlands
Zeolyst C.V. ¹	Netherlands
PQ France S.A.S.	France
PQ Silicas UK Limited	United Kingdom
Catalyst RemainCo UK Limited	United Kingdom
PQ Chemicals (Thailand) Limited	Thailand
PQ Holdings Mexicana, S.A. de C.V. ¹	Mexico
Silicatos y Derivados, S.A. de C.V.	Mexico
PQ China (Hong Kong) Limited	Hong Kong
PQ Mexico Holdings B.V.	Netherlands
PQ Mexico S. de R.L. de C.V.	Mexico
Zeolyst International ¹	Kansas
Eco Services Operations Corp.	Delaware
Chem32 LLC	Delaware
PQ International Holdings II Inc.	Delaware
KILT, LLC ¹	Delaware

Delpen Corporation	Delaware
Commercial Research Associates, Inc.	Pennsylvania
PQ Systems Incorporated	Pennsylvania
PQ Export Company	Delaware
PQ International, Inc.	Pennsylvania
Philadelphia Quartz Company	Pennsylvania
PQ Sales Service, LLC	Delaware
Ecovyst Catalyst Technologies, LLC	Delaware
PQ Japan G.K.	Japan

¹ Represents a joint venture

FORM OF LOCK-UP LETTER

_____, 2021

Citigroup Global Markets Inc.
Deutsche Bank Securities Inc.
As representatives of the several Underwriters (the "Representatives")

c/o Citigroup Global Markets Inc.
388 Greenwich Street
New York, New York 10013

c/o Deutsche Bank Securities Inc.
60 Wall Street
New York, New York 10005

Ladies and Gentlemen:

The undersigned understands that the Representatives propose to enter into an Underwriting Agreement (the "**Underwriting Agreement**") with PQ Group Holdings Inc., a Delaware corporation (the "**Company**"), and the selling stockholders named in Schedule I thereto (the "**Selling Stockholders**"), providing for the public offering (the "**Public Offering**") by the several Underwriters, including the Representatives (the "**Underwriters**"), of 12,500,000 shares (the "**Shares**") of the Common Stock, par value \$0.01 per share, of the Company (the "**Common Stock**").

To induce the Underwriters that may participate in the Public Offering to continue their efforts in connection with the Public Offering, the undersigned hereby agrees that, without the prior written consent of the Representatives on behalf of the Underwriters, it will not, during the period commencing on the date hereof and ending 90 days after the date of the final prospectus (the "**Restricted Period**") relating to the Public Offering (the "**Prospectus**"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock beneficially owned (as such term is used in Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**")), by the undersigned or any other securities so owned convertible into or exercisable or exchangeable for Common Stock or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the shares of Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of shares of Common Stock or such other securities, in cash or otherwise.

Ex. A-1

The foregoing sentence shall not apply to (a) transactions relating to shares of Common Stock or other securities acquired in the Public Offering or in open market transactions after the completion of the Public Offering; *provided* that no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made in connection with subsequent sales of Common Stock or other securities acquired in such transactions (other than as otherwise permitted pursuant to the other provisions of this paragraph), (b) transfers to the Company pursuant to a net exercise or cashless exercise by the undersigned of outstanding equity awards pursuant to an employee benefit plan of the Company as in effect and disclosed in the final prospectus used for the Public Offering, including to satisfy the exercise price or withholding tax or remittance obligations; *provided* that (i) any shares of Common Stock received upon such exercise shall be subject to all of the restrictions set forth in this letter agreement and (ii) no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock, shall be required or shall be voluntarily made during the Restricted Period, unless such filing indicates in the footnotes thereto that the filing relates to the exercise of equity awards, that no shares were sold to the public by the reporting person and the shares of Common Stock received upon exercise of such securities are subject to a lock-up agreement with the Underwriters of the Public Offering, (c) the exercise of options, stock appreciation rights or warrants to purchase shares of Common Stock pursuant to an employee benefit plan disclosed in the final prospectus used for the Public Offering; *provided* that (i) any shares of Common Stock received upon such exercise shall be subject to all of the restrictions set forth in this letter agreement and (ii) no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock, shall be required or shall be voluntarily made during the Restricted Period, unless such filing shall indicate in the footnotes thereto that such filing relates to the exercise of options, stock appreciation rights or warrants to purchase shares of Common Stock and the shares of Common Stock received upon exercise of such securities are subject to a lock-up agreement with the Underwriters of the Public Offering, (d) transfers of shares of Common Stock or any security convertible into Common Stock as a bona fide gift, (e) distributions of shares of Common Stock or any security convertible into Common Stock to limited partners, members, stockholders or holders of similar equity interests of the undersigned (including upon the liquidation or dissolution of the undersigned pursuant to a plan of liquidation approved by the undersigned's equity holders) or in the case of a trust, to a grantor or beneficiary of the trust; *provided* that in the case of any transfer or distribution pursuant to (d) or (e), (i) each donee, distributee or transferee shall sign and deliver a lock-up letter substantially in the form of this letter agreement and (ii) no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock, shall be required or shall be voluntarily made during the Restricted Period, unless, in the case of a distribution, such filing indicates in the footnotes thereto that such transfer is a distribution to limited partners, members, stockholders or holders of similar equity interests, that no shares of Common Stock or securities convertible into Common Stock, as applicable, were sold to the public by the reporting person and the shares of Common Stock or securities convertible into Common Stock, as applicable, distributed are subject to a lock-up agreement with the Underwriters of the Public Offering, (f) transfers of shares of Common Stock, (i) to any immediate family member, trusts for the

direct or indirect benefit of the undersigned or the immediate family members of the undersigned or any of their successors upon death, or any partnership or limited liability company, the partners or members of which consist of the undersigned and/or immediate family members or other dependents of the undersigned, and in each case such transfer does not involve a disposition for value, or (ii) to a nominee or custodian of a person or entity to whom disposition or transfer would be permitted under clauses (f)(i) above (for purposes of this letter agreement, "immediate family" means any relationship by blood, marriage or adoption, not more remote than first cousin); *provided* that in the case of any transfer pursuant to (f), (i) each donee, distributee or transferee shall sign and deliver a lock-up letter substantially in the form of this letter agreement and (ii) no filing by any party (donor, donee, transferor or transferee) under the Exchange Act (other than a filing on a Form 5 made after the expiration of the 90-day period referred to above or, if a Form 5 filing is required to be made prior to the expiration of such 90-day period, such Form 5 filing is made on the latest date permitted under the Exchange Act) or other public announcement reporting a reduction in beneficial ownership of Common Stock shall be required or shall be made voluntarily in connection with such transfer or distribution, (g) transfers of shares of Common Stock or any other options or warrants or other rights to acquire Common Stock or any securities exchangeable or exercisable for or convertible into Common Stock by will or intestacy or pursuant to a domestic order divorce settlement, divorce decree or separation agreement; *provided* that in the case of any transfer pursuant to (g), unless prohibited by an order of a court, each donee or distributee shall sign and deliver a lock-up letter substantially in the form of this letter, (h) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act (a "**Rule 10b5-1 Trading Plan**") for the transfer of shares of Common Stock, provided that (i) such plan does not provide for the transfer of Common Stock during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required or is voluntarily made by or on behalf of the undersigned or the Company during the Restricted Period regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Common Stock may be made under such plan during the Restricted Period, (i) the transfer of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock pursuant to a bona fide third party tender offer, merger, consolidation or other similar transaction made to all holders of Common Stock and approved by the board of directors involving a Change of Control (as defined below), *provided*, that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the undersigned's Common Stock shall remain subject to the terms of this letter agreement, (j) transfers pursuant to an order of a court or regulatory agency; provided that in the case of any transfer pursuant to (j), (i) unless prohibited by an order of a court or regulatory agency, the undersigned must request that each transferee sign and deliver a lock-up letter substantially in the form of this letter and (ii) any filing under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of shares of Common Stock required to be made during the Restricted Period shall state that such transfer is pursuant to an order of a court or regulatory agency, [(k) transfers to the Company for the purpose of satisfying any tax or other governmental withholding obligation with respect to, or in connection with, a vesting event of the Company's securities, upon the exercise of the Company's securities or upon expiration of the Company's securities, in each case held

Ex. A-3

by the undersigned; provided that no filing under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock, shall be required or shall be voluntarily made during the Restricted Period, unless such filing indicates in the footnotes thereto that the shares were transferred to the Company in order to satisfy tax or other governmental withholding obligations of the reporting person and that no shares were sold to the public] or (l) in connection with sales of Common Stock made pursuant to a Rule 10b5-1 Trading Plan that has been entered into by the undersigned prior to the date of this letter agreement; *provided* that such Rule 10b5-1 Trading Plan was established by the undersigned prior to the execution of this letter agreement, the existence and details of such Rule 10b5-1 Trading Plan were communicated to the Underwriters prior to the execution of this letter agreement and such Rule 10b5-1 Trading Plan will not be amended or otherwise modified during the Restricted Period. For purposes of clause (i) above, “**Change of Control**” means any bona fide third party tender offer, merger, consolidation or other similar transaction, in one transaction or a series of related transactions, the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act) or group of persons, other than the Company, becomes the beneficial owner (as defined Rule 13d-3 and 13d-5 of the Exchange Act) of more than 50% of total voting power of the voting stock of the Company (or the surviving entity).

In addition, the undersigned agrees that, without the prior written consent of the Representatives on behalf of the Underwriters, it will not, during the Restricted Period, make any demand for or exercise any right with respect to, the registration of any shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company’s transfer agent and registrar against the transfer of the undersigned’s shares of Common Stock except in compliance with the foregoing restrictions.

The undersigned understands that the Company and the Underwriters are relying upon this letter agreement in proceeding toward consummation of the Public Offering. The undersigned further understands that this letter agreement is irrevocable and shall be binding upon the undersigned’s heirs, legal representatives, successors and assigns.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Public Offering of the Securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Representatives may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures or other related documentation to you in connection with the Public Offering, the Representatives and the other Underwriters are not making a recommendation to you to participate in the Public Offering, enter into this letter agreement, or sell any Shares at the price determined in the Public Offering, and nothing set forth in such disclosures or documentation is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

Whether or not the Public Offering actually occurs depends on a number of factors, including market conditions. Any Public Offering will only be made pursuant to an Underwriting Agreement, the terms of which are subject to negotiation among the Company, the Selling Stockholders and the Underwriters. The undersigned understands that if (1) the Company withdraws the registration statement relating to the Public Offering, (2) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold hereunder, (3) the Representatives, on behalf of the Underwriters, advise the Company, or the Company advises the Representatives, in writing, prior to the execution of the Underwriting Agreement, that they have determined not to proceed with the Public Offering or (4) the closing of the Public Offering shall not have occurred on or before May 31, 2021, the undersigned shall be released from all obligations under this letter agreement.

Very truly yours,

(Name)

(Address)

Ex. A-5



ROPES & GRAY LLP
PRUDENTIAL TOWER
800 BOYLSTON STREET
BOSTON, MA 02199-3600
WWW.ROPESGRAY.COM

April 29, 2021

PQ Group Holdings Inc.
300 Lindenwood Drive
Malvern, Pennsylvania 19355

Re: Registration Statement on Form S-3ASR filed on April 26, 2021 (Registration No. 333-255514)

Ladies and Gentlemen:

This opinion is furnished to you in connection with the above-referenced registration statement (the "Registration Statement"), the base prospectus dated April 26, 2021 (the "Base Prospectus") and the prospectus supplement dated April 26, 2021 (together with the Base Prospectus, the "Prospectus") filed with the Securities and Exchange Commission (the "Commission") by PQ Group Holdings Inc. (the "Company"), a Delaware corporation, pursuant to Rule 424 promulgated under the Securities Act of 1933, as amended (the "Securities Act"). The Prospectus relates to the offering of up to 14,375,000 shares (the "Shares") of common stock, \$0.01 par value per share, of the Company by certain stockholders of the Company, which Shares are covered by the Registration Statement.

We have acted as counsel for the Company in connection with the sale of the Shares. For purposes of this opinion, we have examined and relied upon such documents, records, certificates and other instruments as we have deemed necessary.

The opinions expressed below are limited to the Delaware General Corporation Law.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and are validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to this firm under the caption "Legal Matters" in the Prospectus. In giving this consent we do not thereby admit that we are included in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Ropes & Gray LLP
Ropes & Gray LLP

Information Relating to Part II.**Item 14. - Other Expenses of Issuance and Distribution**

The expenses in connection with the offer and sale of shares of common stock of PQ Group Holdings Inc., registered pursuant to the Registration Statement on Form S-3 (Registration No. 333-255514) filed on April 26, 2021, other than underwriting discounts and commissions, are set forth in the following table. All amounts are estimated except the Securities and Exchange Commission registration fee.

Securities and Exchange Commission registration fee	\$21,956.40
FINRA filing fee	—
Blue sky fees and expenses	10,000
Printing and engraving expenses	50,000
Accounting fees and expenses	415,000
Legal fees and expenses	460,000
Transfer agent and registrar fees	8,200
Miscellaneous fees and expenses	34,843.60
TOTAL	\$1,000,000