

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549

MPLX LP  
(Exact name of Registrant as specified in its charter)

|                                                                |                                      |
|----------------------------------------------------------------|--------------------------------------|
| Delaware                                                       | 27-0005456                           |
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |
| 200 E. Hardin Street                                           |                                      |
| Findlay, Ohio 45840                                            |                                      |
| (Address of principal executive offices, including zip code)   |                                      |

MPLX LP 2018 Incentive Compensation Plan  
(Full title of the plan)  
Molly R. Benson  
Vice President, Corporate Secretary and Chief Compliance Officer  
200 E. Hardin Street  
Findlay, Ohio 45840  
(Name and address of agent for service)  
419-421-2414  
(Telephone number, including area code, of agent for service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

|                           |                           |   |
|---------------------------|---------------------------|---|
| Large accelerated filer x | Accelerated filer         | “ |
| Non-accelerated filer     | Smaller reporting company | “ |

“(Do not  
check if a  
smaller  
reporting  
company)

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 7(a)(2)(B)  
of the Securities Act.

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## CALCULATION OF REGISTRATION FEE

| Title of securities to be registered                | Amount to be registered      | Proposed maximum offering price per share | Proposed maximum aggregate offering price | Amount of registration fee |
|-----------------------------------------------------|------------------------------|-------------------------------------------|-------------------------------------------|----------------------------|
| Common Units representing limited partner interests | 16,000,000 <sup>(1)(2)</sup> | \$34.70 <sup>(3)</sup>                    | \$555,200,000.00 <sup>(3)</sup>           | \$69,122.40                |

Consists of common units representing limited partner interests (“Common Units”) issuable pursuant to the MPLX LP 2018 Incentive

(1) Compensation Plan (the “Plan”), including Common Units issuable pursuant to the unit counting provisions of the Plan upon the cancellation, expiration, forfeiture or other termination of awards.

Pursuant to Rule 416(a) under the Securities Act of 1933, as

(2) amended (the “Securities Act”), this Registration Statement also covers such additional Common Units as may become issuable pursuant to the anti-dilution adjustment provisions of the Plan.

Estimated solely for the purposes of determining the amount of the registration fee in accordance with Rule 457(c) and 457(h) of the

(3) Securities Act on the basis of the average of the high and low sale prices for the Common Units as reported on the New York Stock Exchange on March 8, 2018.

## PART II

### INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

#### Item 3. Incorporation of Documents by Reference.

The Registrant is subject to the informational and reporting requirements of Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and, in accordance therewith, files reports, proxy statements and other information with the Securities and Exchange Commission (the “Commission”). The following documents, which are on file with the Commission, are incorporated into this Registration Statement by reference:

- (a) The Registrant’s Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (Commission File No. 001-35714);
- (b) The Registrant’s Current Reports on Form 8-K filed on January 4, 2018, January 8, 2018 (Items 5.03 and 9.01 only), February 2, 2018, February 8, 2018 and March 5, 2018 (Commission File No. 001-35714); and
- (c) The description of the Common Units contained in the Registrant’s Registration Statement on Form 8-A (File No. 001-35714) filed with the Commission on October 23, 2012 pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (excluding information deemed to be furnished and not filed with the Commission) subsequent to the date of this Registration Statement and prior to the filing of a post-effective amendment that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold, will be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein will be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded will not be deemed, except as modified or superseded, to constitute a part of this Registration Statement.

#### Item 4. Description of Securities.

Not applicable.

#### Item 5. Interests of Named Experts and Counsel.

Not applicable.

#### Item 6. Indemnification of Directors and Officers.

Section 7.7(a) of the Registrant’s Fourth Amended and Restated Agreement of Limited Partnership, dated as of February 1, 2018 (the “Partnership Agreement”), filed as Exhibit 3.1 to this Registration Statement, provides that the Registrant will indemnify and hold harmless the following persons (each, an “Indemnitee”), to the fullest extent permitted by law, from and against all losses, claims, damages, liabilities, joint or several, expenses (including legal fees and expenses), judgments, fines, penalties, interest, settlements or other amounts arising from any and all threatened, pending or completed claims, demands, actions, suits or proceedings, whether civil, criminal, administrative or investigative, and whether formal or informal and including appeals, in which any such person is involved, or threatened to be involved, as a party of otherwise, by reason of such person’s status with respect to the Registrant and acting (or refraining to act) in such capacity:

• MPLX GP LLC, as the general partner of the Registrant (the “General Partner”);

• any departing general partner of the Registrant;

• any person who is or was an affiliate of the General Partner or any departing general partner of the Registrant;

• any person who is or was a managing member, manager, general partner, director, officer, fiduciary or trustee of the Registrant, its subsidiaries, the General Partner, any departing general partner of the Registrant or any of their respective affiliates;

any person who is or was serving at the request of the General Partner or any departing general partner of the Registrant or any of their respective affiliates as an officer, director, managing member, manager, general partner, fiduciary or trustee of another person owing a fiduciary duty to the Registrant or any of its subsidiaries, provided that a person shall not be an Indemnatee for purposes of the Partnership Agreement by reason of providing, on a fee-for-services basis, trustee, fiduciary or custodial services; and

any person the General Partner designates as an Indemnatee because such person's status, service or relationship exposes such person to claims or suits relating to the business and affairs of the Registrant and its subsidiaries.

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Provided, that no Indemnitee will be indemnified and held harmless pursuant to the Partnership Agreement if there has been a final non-appealable judgment entered by a court of competent jurisdiction determining that such Indemnitee, in respect of the matter for which such Indemnitee is seeking indemnification under the Partnership Agreement, acted in bad faith or engaged in intentional fraud, willful misconduct, or with respect to any criminal matter, acted with knowledge that such Indemnitee's conduct was unlawful.

Any indemnification described above will be made only out of the Registrant's assets. Unless the General Partner otherwise agrees, the General Partner will not be personally liable for such indemnification, or have any obligation to contribute or loan funds or assets to the Registrant to enable the Registrant to effectuate such indemnification.

Section 7.7(b) of the Partnership Agreement states that, to the fullest extent permitted by law, expenses (including legal fees and expenses) incurred by an Indemnitee who is indemnified pursuant to Section 7.7(a) of the Partnership Agreement in defending any claim, demand, action, suit or proceeding shall, from time to time, be advanced by the Registrant, prior to a final and non-appealable judgment entered by a court of competent jurisdiction determining that the Indemnitee is not entitled to be indemnified in respect of the matter for which the Indemnitee is seeking indemnification, upon receipt by the Registrant of any undertaking by or on behalf of the Indemnitee to repay such amount if it shall be determined that the Indemnitee is not entitled to be indemnified as authorized by Section 7.7 of the Partnership Agreement.

Section 7.7(d) of the Partnership Agreement states that the Registrant may purchase and maintain (or reimburse the General Partner or its affiliates for the cost of) insurance, on behalf of the General Partner, its affiliates and such other persons as the General Partner shall determine, against any liabilities that may be asserted against, or expenses that may be incurred by, such person in connection with the Registrant's activities or such person's activities on behalf of the Registrant, regardless of whether the Registrant would have the power to indemnify such person against such liabilities under the Partnership Agreement. As of the date of this Registration Statement, the General Partner maintains directors and officers liability insurance for the benefit of its directors and officers.

The second amended and restated limited liability company agreement of the General Partner provides that the General Partner will indemnify and hold harmless the following persons under circumstances similar to those for which an Indemnitee would be entitled to indemnity under the Partnership: (i) MPC Investment LLC, as the initial member of the General Partner, and any person later admitted to the General Partner as a member; (ii) any person who is or was an affiliate of the General Partner (other than the Registrant and its subsidiaries); (iii) any person who is or was a member, partner, director, officer, fiduciary or trustee of the General Partner or its affiliates (other than the Registrant and its subsidiaries); (iv) any person who is or was serving at the request of the General Partner or its affiliates as an officer, director, member, manager, partner, fiduciary or trustee of another person; provided, however, that a person shall not be entitled to indemnification solely by reason of providing, on a fee-for-services basis, trustee, fiduciary or custodial services; and (v) any person designated by the board of directors of the General Partner.

Subject to the limitations set forth in the Partnership Agreement, Section 17-108 of the Delaware Revised Uniform Limited Partnership Act empowers a Delaware limited partnership to indemnify and hold harmless any partner or other persons from and against all claims and demands whatsoever.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

|                |             |
|----------------|-------------|
| Exhibit<br>No. | Description |
|----------------|-------------|

- |     |                                                                                                                                                                                                                                                                                                                                 |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1 | <u>Certificate of Limited Partnership of MPLX LP (incorporated by reference to Exhibit 3.1 to the Registrant's Registration Statement on Form S-1 (File No. 333-182500) filed by the Registrant on July 2, 2012, as amended on August 10, 2012, September 7, 2012, October 9, 2012 and October 18, 2012).</u>                   |
| 4.2 | <u>Amendment to the Certificate of Limited Partnership of MPLX LP (incorporated by reference to Exhibit 3.2 to the Registrant's Registration Statement on Form S-1 (File No. 333-182500), filed by the Registrant on July 2, 2012, as amended on August 10, 2012, September 7, 2012, October 9, 2012 and October 18, 2012).</u> |
| 4.3 |                                                                                                                                                                                                                                                                                                                                 |

Fourth Amended and Restated Agreement of Limited Partnership, dated as of February 1, 2018 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-35714) filed by the Registrant on February 2, 2018).

4.4 MPLX LP 2018 Incentive Compensation Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K (File No. 001-35714) filed by the Registrant on March 5, 2018).

5.1\* Opinion of Jones Day.

23.1\* Consent of PricewaterhouseCoopers LLP.

23.2 Consent of Jones Day (included in Exhibit 5.1).

24.1\* Powers of Attorney.

\*Filed herewith.

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Item 9. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

(ii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment (2) shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Findlay, State of Ohio, on March 12, 2018.

MPLX LP

By: MPLX GP LLC, its General Partner

By: /s/ Gary R. Heminger  
Gary R. Heminger  
Chairman of the Board and  
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated on March 12, 2018.

Signature Title

/s/ Chairman  
Gary of the Board  
R. of Directors  
Heminger

Chief  
Executive  
Officer of  
Gary MPLX GP  
R. LLC  
Heminger  
(Principal  
Executive  
Officer)

\* Director,  
Pamela Executive  
K.M. Vice  
Beall President  
and  
Chief  
Financial  
Officer of  
MPLX GP  
LLC

(Principal  
Financial  
Officer)

\* Vice  
President  
and  
Controller  
of MPLX  
GP LLC  
C. Kristopher  
Hagedorn  
(Principal  
Accounting  
Officer)

\* Director  
and  
President of  
MPLX GP  
J. Michael  
Hennigan  
LLC

\* Director of  
MPLX GP  
Michael  
L. Beatty  
LLC

\* Director of  
MPLX GP  
David  
A. Daberkow  
LLC

\* Director of  
MPLX GP  
Timothy  
T. Griffith  
LLC

\* Director of  
MPLX GP  
Christopher  
A. Helms  
LLC

\* Director of  
MPLX GP  
Garry  
L. Peiffer  
LLC

\* Director of  
MPLX GP  
Dan  
D. Sandman  
LLC

\* Director of  
MPLX GP  
Frank  
M. Semple  
LLC

\* Director of  
MPLX GP  
John  
P. Surma  
LLC

\* Director of  
MPLX GP

Donald LLC  
C.  
Templin

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This Registration Statement has been signed on behalf of the above directors and/or officers by Gary R. Heminger  
\*on March 12, 2018, as attorney-in-fact pursuant to a Power of Attorney filed as Exhibit 24.1 to this Registration  
Statement.

By: /s/ Gary R. Heminger  
Gary R. Heminger  
Attorney-in-Fact