

QUAKER CHEMICAL CORP  
Form 11-K  
June 21, 2018

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

**FORM 11-K**

**[X] ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the fiscal year ended December 31, 2017**

**OR**

**TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

**Commission file number 001-12019**

**A. Full title of plan and the address of the plan, if different from that of the issuer named below:**

**Quaker Chemical Corporation**

**Retirement Savings Plan**

**B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:**

**Quaker Chemical Corporation**

**One Quaker Park**

**901 E. Hector Street**

**Conshohocken, PA 19428-2380**



**Quaker Chemical Corporation  
Retirement Savings Plan  
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**Report of Independent Registered Public Accounting Firm**

**To the Plan Administrator and Plan Participants**

**Quaker Chemical Corporation Retirement Savings Plan**

**Conshohocken, Pennsylvania**

**Opinion on the Financial Statements**

We have audited the accompanying statements of net assets available for benefits of the Quaker Chemical Corporation Retirement Savings Plan (the “Plan”) as of December 31, 2017 and 2016, the related statement of changes in net assets available for benefits for the year ended December 31, 2017, and the related notes (collectively, the “financial statements”). In our opinion, the financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2017 and 2016, and the changes in net assets available for benefits for the year ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

**Basis for Opinion**

These financial statements are the responsibility of the Plan’s management. Our responsibility is to express an opinion on the Plan’s financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Plan in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Plan’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risk of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included

examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by the Plan's management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

### **Supplemental Information**

The supplemental information in the accompanying Schedule of Assets (held at end of year) as of December 31, 2017 has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is presented for the purpose of additional analysis and is not a required part of the financial statements but included supplemental information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental information is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information, we evaluated whether the supplemental information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. In our opinion, the supplemental information is fairly stated, in all material respects, in relation to the financial statements as a whole.

/s/ BDO USA, LLP

We have served as the Plan's auditor since 2012.

Philadelphia, Pennsylvania  
June 21, 2018

**QUAKER CHEMICAL CORPORATION****RETIREMENT SAVINGS PLAN****STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS**

	<b>As of December 31,</b>	
	<b>2017</b>	<b>2016</b>
<b>Assets</b>		
Investments:		
Registered investment companies	\$ 86,461,772	\$ 70,348,175
Vanguard Retirement Savings Master Trust	12,518,131	13,028,075
Quaker Chemical Corporation Stock Fund	39,165,893	35,580,116
Participant-directed brokerage account	1,895,735	1,447,368
Total investments	140,041,531	120,403,734
Receivables:		
Employer's contributions	140,382	137,169
Participant notes receivable	1,703,522	1,742,166
Total receivables	1,843,904	1,879,335
Net assets available for benefits	\$ 141,885,435	\$ 122,283,069

*The accompanying notes are an integral part of the financial statements*

**QUAKER CHEMICAL CORPORATION****RETIREMENT SAVINGS PLAN****STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS**

	<b>For the Year Ended December 31,</b>	
	<b>2017</b>	<b>2016</b>
<b>Additions</b>		
Investment income:		
Interest and dividend income, investments	\$ 3,371,995	\$ 2,510,626
Net increase in fair value of investments	17,434,318	18,747,616
Total investment income	20,806,313	21,258,242
Interest income, participant notes receivable	76,250	68,462
Contributions:		
Employer	2,989,927	2,741,340
Participant	4,881,964	4,635,651
Total contributions	7,871,891	7,376,991
Total additions	28,754,454	28,703,695
<b>Deductions</b>		
Payment of benefits	9,152,088	9,355,639
Total deductions	9,152,088	9,355,639
Net increase	19,602,366	19,348,056
Net assets available for benefits:		
Beginning of year	122,283,069	102,935,013
End of year	\$ 141,885,435	\$ 122,283,069

*The accompanying notes are an integral part of the financial statements*



**Quaker Chemical Corporation**

**Retirement Savings Plan**

**Notes to Financial Statements**

**NOTE 1 – DESCRIPTION OF PLAN**

The following description of the Quaker Chemical Corporation Retirement Savings Plan (the “Plan”) provides only general information. The Plan document provides a complete description of the Plan’s provisions.

*General*

The Plan is a defined contribution plan for certain U.S. employees of Quaker Chemical Corporation (the “Company”) and participating employers (AC Products, Inc. (“AC”), Epmar Corporation (“Epmar”), Summit Lubricants, Inc. (“Summit”) and ECLI Products, LLC (“ECLI”). The Plan is administered by the Global Pension Committee, which is appointed by the Company’s Board of Directors, and is subject to the Employee Retirement Income Security Act of 1974 (“ERISA”).

Employees of the Company and adopting affiliates are eligible to participate in the Plan on their first day of employment or as soon as administratively practicable thereafter, unless specified differently in any bargaining unit agreement.

*Plan Amendments*

The Plan was amended pursuant to Amendment No. 3 to include certain technical language requested by the Internal Revenue Service (“IRS”) in connection with the issuance of a favorable determination letter to the Plan dated November 15, 2017.

The Plan was amended pursuant to Amendment No. 2 effective January 1, 2017 to provide service credit for eligible employees of Lubricor Inc. (“Lubricor”), a newly acquired subsidiary of the Company, for service provided prior to November 30, 2016, the acquisition date.

The Plan was amended pursuant to Amendment No. 1 effective January 1, 2017 to automatically enroll participants hired on or after January 1, 2017, to add ECLI, a subsidiary of the Company, to the Plan as a participating employer, and to change the investment direction of the Company’s matching contributions and non-elective contributions such that these contributions will be made in cash instead of Company stock and will be invested according to the direction of the participant, beneficiary or alternate payee.

The Plan was amended and restated effective January 1, 2016 to incorporate prior amendments and to exclude certain items from the definition of compensation.

*Contributions*

Participants may elect to contribute on a before-tax and/or after-tax basis any whole percentage of their compensation as defined, up to 50%, during the year, not to exceed the annual Internal Revenue Code limits. At the discretion of the Global Pension Committee, the Plan matches 50% of the first 6% of compensation as defined that is contributed to the Plan, with a maximum matching contribution of 3% of compensation. No changes were made to the discretionary matching provision during 2017 or 2016. In addition, the Plan provides for a non-elective nondiscretionary contribution on behalf of participants who have completed one year of service equal to 3% of the eligible participant's compensation.

The Company's Board of Directors (and AC's Board of Directors with respect to AC participants) reserves the right to make future discretionary non-elective contributions, which are allocated on the basis of eligible participants' compensation as defined. Upon completing one year of service, an eligible participant is eligible to receive discretionary non-elective contributions on the first day of the month coinciding with or next following the date on which the participant meets the one year of service requirement. Epmar, Summit and ECLI participants are not eligible for a discretionary non-elective contribution.

Participants who are eligible to make contributions and who have or will attain age 50 before the end of the Plan year are eligible to make catch-up contributions in accordance with, and subject to, the limitations of Internal Revenue Code ("IRC") Section 414(v). No Company matching contributions are made with respect to catch-up contributions.

The Company previously made its non-elective nondiscretionary contribution and a portion of its elective discretionary matching contributions in shares of Company common stock. As noted above, the company began making both the non-elective and elective contributions in cash rather than Company stock, effective January 1, 2017. Non-cash contributions made by the Company were \$2,134,058 in 2016.

#### *Participant Accounts*

Each participant's account is credited or deducted with the participant's contribution and any applicable direct expenses and allocation of the Company's contributions and any Plan earnings and losses.

**Quaker Chemical Corporation**

**Retirement Savings Plan**

**Notes to Financial Statements - Continued**

*Participant Notes Receivable*

Participants may borrow from their fund accounts (other than amounts invested in the Company Stock Fund) an amount limited to the lesser of \$50,000 or 50% of the participant's vested account balance. The loans bear interest at a rate equal to the prevailing rate of interest charged for similar loans by lending institutions in the community (generally the prime rate), plus 1%. The term of each participant loan generally may not exceed five years except for the purchase of principal residence loans. Interest rates on outstanding participant notes receivable at December 31, 2017 ranged from 4.25% to 5.50%. Principal and interest is paid ratably through periodic payroll deductions. Loan application fees and annual maintenance fees on all outstanding loans are paid by the participant.

*Payment of Benefits*

Generally, upon separation of service, for any reason, a participant may receive a lump sum amount equal to the value of the participant's account. In addition, a participant may elect to take an in-service distribution from their rollover account prior to reaching age 59 ½, and from all accounts upon reaching age 59 ½. If a participant's vested account balance exceeds \$1,000, the participant may defer payment until April 1 following the year the participant reaches age 70 ½ or following the year in which the participant terminates employment, if later.

*Hardship Withdrawals*

Participants who are actively employed and who meet certain requirements may take a hardship withdrawal from their elective contributions. Participants who receive a hardship withdrawal will not be eligible to make contributions for six months following the receipt of the hardship withdrawal.

*Vesting*

Upon entering the Plan, participants are fully vested in Company matching contributions, Company discretionary non-elective contributions, Company nondiscretionary non-elective contributions and employee deferrals plus actual earnings.

*Plan Termination*

Although it has not expressed any intent to do so, the Company has the right to terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, participants would remain 100% vested.

**NOTE 2 – SUMMARY OF ACCOUNTING POLICIES**

*Basis of Accounting*

The Plan's financial statements are prepared on the accrual basis of accounting.

*Use of Estimates*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and changes therein, and disclosure of contingent assets and liabilities. The most significant estimate is the determination of the fair values of the Plan's investments. Actual results could differ from those estimates.

*Administration of Plan Assets*

The Plan's assets are held by the Trustee of the Plan. Certain administrative functions are performed by officers or employees of the Company. No such officer or employee receives compensation from the Plan. Substantially all administrative expenses, including the Trustee's and audit fees, are paid directly by the Company and are therefore excluded from these financial statements.

*Investment Valuation and Income Recognition*

The Plan's investments are recorded at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Plan management determines the Plan's valuation policies utilizing information provided by the Trustee. Refer to Note 5 – Fair Value Measures for further information.

Purchases and sales of investments are recorded on a trade-date basis. Net increase in fair value of investments includes gains and losses on investments bought and sold during the year as well as unrealized gains and losses on those held at year end. Interest income is accrued when earned. Dividend income is recorded on the ex-dividend date. Capital gain distributions are included in dividend income.

Net investment returns reflect certain fees paid by the investment funds, which include costs for portfolio management, administrative and other services as described in each fund's prospectus. These fees are deducted by the investment funds prior to allocation of the

**Quaker Chemical Corporation**

**Retirement Savings Plan**

**Notes to Financial Statements - Continued**

Plan's investment earnings activity and are therefore not separately identified as Plan expenses.

*Participant Notes Receivable*

Notes receivable from participants are measured at their unpaid principal balance plus any accrued but unpaid interest. Interest income is recorded on the accrual basis. No allowance for credit losses was recorded as of December 31, 2017 or 2016. Delinquent notes receivable from participants are recorded as a benefit payment when the Plan Administrator deems the participant note receivable to be in default based on the terms of the Plan document.

*Payment of Benefits*

Benefits are recorded when paid.

*Recently Issued Accounting Standards*

In February 2017, the Financial Accounting Standards Board ("FASB") issued Accounting Standard Update ("ASU") No. 2017-06, *Plan Accounting: Defined Benefit Pension Plans (Topic 960), Defined Contribution Pension Plans (Topic 962), Health and Welfare Benefit Plans (Topic 965): Employee Benefit Plan Master Trust Reporting*. The amendments in this update require employee benefit plans to report its interest in a master trust and the change in the value of the interest as separate line items on the statement of net assets available for benefits and the statement of changes in net assets available for benefits, respectively. The update requires a plan to disclose the master trust's other assets and liabilities, as well as the dollar amount of its interest in these balances. In addition, the amendments in this update remove the requirement to disclose the percentage interest in the master trust for plans with divided interest and requires that a plan disclose the dollar amount of its interest in the general types of investments held by the master trust. The amendments in this update are effective for fiscal years beginning after December 15, 2018 and should be applied on a retrospective basis for the periods presented. Early adoption is permitted. The Plan is still evaluating the impact of this guidance, and has not adopted such.

**NOTE 3 – RISKS AND UNCERTAINTIES**

Investment securities are exposed to various risks such as interest rate, credit and overall market volatility risks. Due to the risks associated with investment securities, it is possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits. The Plan therefore provides for investment options in various investment securities, which allows participants to diversify their securities portfolios and mitigate these risks.

**NOTE 4 – VANGUARD RETIREMENT SAVINGS MASTER TRUST**

The Plan invests in a trust, the Vanguard Retirement Savings Master Trust ("VRSMT"), which is composed of an investment in fully benefit-responsive contracts that are issued by insurance companies and commercial banks and in contracts that are backed by bond funds and trusts that are selected by Vanguard Fiduciary Trust Employer, the Trustee. Contract value, as reported by VRSMT, is the amount participants would receive if they were to initiate a

permitted transaction under the terms of the Plan, and also, represents contributions made under the contract, plus earnings, less participant withdrawals. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value. Certain events limit the Plan's ability to transact at contract value, including: 1) Premature termination of the contracts by the Plan; 2) Plan termination; and 3) Bankruptcy of the Plan sponsor. The Plan administrator does not believe that any events that would limit the Plan's ability to transact at contract value with Plan participants are probable of occurring. Contract issuers may terminate and settle the contracts at other than contract value if there is a change in qualification status of a participant, sponsor or plan, a breach of material obligations under the contract and misrepresentation by the contract holder or failure of the underlying portfolio to conform to pre-established investment guidelines. The VRSMT is valued at the Net Asset Value ("NAV") in the fair value hierarchy.

#### **NOTE 5 – FAIR VALUE MEASURES**

The Plan applies the guidance of the FASB regarding fair value measurements, which establishes a common definition for fair value. Specifically, the guidance utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three broad levels. The following is a brief description of those three levels:

- Level 1: Observable inputs such as quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.
- Level 3: Unobservable inputs that reflect the reporting entity's own assumptions.

**Quaker Chemical Corporation****Retirement Savings Plan****Notes to Financial Statements - Continued**

The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy:

*Registered Investment Companies*

The shares of registered investment companies, which represent the NAV of shares held by the Plan, are valued based on quoted market prices on an exchange in an active market and are classified as Level 1 investments.

*Common Stock Fund*

The common stock fund is comprised of investments in the Quaker Chemical Corporation Stock Fund, which is composed of shares of the Company and uninvested cash. The shares of the Company are traded on an exchange in an active market and are classified as a Level 1 investment.

*Participant-Directed Brokerage Account*

The participant-directed brokerage account is mainly composed of investments in common stock and registered investment companies, which are valued based on quoted market prices on an exchange in an active market and are classified as Level 1 investments.

The valuation methodologies described above may produce fair value calculations that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Plan believes its valuation methodologies are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date. There have been no significant changes in methodologies used or transfers between levels during the years ended December 31, 2017 and 2016.

As of December 31, 2017 and 2016, the Plan's investments measured at fair value on a recurring basis were as follows:

<u>Assets</u>	<b>Fair Value Measurements at December 31, 2017</b>			
	<b>Total Fair Value</b>	<b>Using Fair Value Hierarchy</b>		
		<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
Registered investment companies	\$ 86,461,772	\$ 86,461,772	\$ —	\$ —
Common stock fund	39,165,893	39,165,893	—	—
Participant-directed brokerage account	1,895,735	1,895,735	—	—
Total investments in fair value hierarchy	\$ 127,523,400	\$ 127,523,400	\$ —	\$ —
Common/collective trust measured at NAV *	12,518,131	—	—	—
Total investments	\$ 140,041,531	\$ 127,523,400	\$ —	\$ —

**Fair Value Measurements at December 31,  
2016**

<u>Assets</u>	<b>Total Fair Value</b>	<b>Using Fair Value Hierarchy</b>		
		<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>
Registered investment companies	\$ 70,348,175	\$ 70,348,175	\$ —	\$ —
Common stock fund	35,580,116	35,580,116	—	—
Participant-directed brokerage account	1,447,368	1,447,368	—	—
Total investments in fair value hierarchy	\$ 107,375,659	\$ 107,375,659	\$ —	\$ —
Common/collective trust measured at NAV *	13,028,075	—	—	—
Total investments	\$ 120,403,734	\$ 107,375,659	\$ —	\$ —

\* Certain investments that are measured at fair value using the NAV per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in these tables are intended to permit reconciliation of the fair value hierarchies to the line items presented in the statements of net assets available for benefits.



**Quaker Chemical Corporation**

**Retirement Savings Plan**

**Notes to Financial Statements - Continued**

**NOTE 6 – RELATED PARTY AND PARTY-IN-INTEREST TRANSACTIONS**

The Plan invests in shares of mutual funds and a collective trust managed by an affiliate of Vanguard Fiduciary Trust Company (“VFTC”). VFTC acts as Trustee for Plan investments. In addition, certain Plan assets are invested in shares of the Quaker Chemical Corporation Stock Fund. As of December 31, 2017 and 2016, the Plan held 259,738 and 278,100 shares of common stock of Quaker Chemical Corporation in the Quaker Chemical Corporation stock fund, respectively. Transactions in such investments qualify as party-in-interest transactions and are exempt from the prohibited transaction rules. Fees incurred by the Plan for investment management services are included in the net increase in the fair value of investments.

Participant notes receivable qualify as party-in-interest transactions and are exempt from the prohibited transaction rules.

**NOTE 7 – TAX STATUS**

The IRS informed the Company by letter dated November 15, 2017, which updates the letter dated September 27, 2012, that the Plan is qualified under IRC Section 401(a). The Plan has since been amended, however, the Plan administrator continues to believe the Plan is currently designed and being operated in compliance with the applicable requirements of the IRC. The Plan administrator has not identified any uncertain tax positions which would require adjustment to or disclosure in the Plan’s financial statements. The IRS has the ability to examine the Plan’s tax return filings for all open tax years, which generally relate to the three prior years; however, there are currently no audits for any tax periods in progress.

**NOTE 8 – SUBSEQUENT EVENTS**

The Company and the Plan have evaluated subsequent events through the date that these financial statements were available to be issued, and there were no subsequent events which would require an adjustment or additional disclosures to the financial statements.

**Quaker Chemical Corporation**

**Retirement Savings Plan**

**Schedule of Assets (Held at End of Year)**

**As of December 31, 2017**

Quaker Chemical Corporation Retirement Savings Plan, EIN 23-0993790, PN 112

Attachment to Form 5500, Schedule H, Part IV, Line 4 (i):

<b>(a) (b) Identify of issue, borrower, lessor, or similar party</b>	<b>(c) Description of investment including maturity date, rate of interest, collateral, par, or maturity value</b>	<b>(e) Current Value</b>
Columbia Small Cap Growth Fund, Inc.	Registered Investment Company	\$ 4,996,035
* Vanguard 500 Index Fund Investor Shares	Registered Investment Company	18,425,815
* Vanguard Balanced Index Fund Investor Shares	Registered Investment Company	4,305,371
* Vanguard Extended Market Index Fund Investor Shares	Registered Investment Company	5,129,108
* Vanguard Federal Money Market Fund	Registered Investment Company	189
* Vanguard International Growth Fund Investor Shares	Registered Investment Company	5,768,475
* Vanguard Target Retirement 2015 Fund	Registered Investment Company	2,014,093
* Vanguard Target Retirement 2020 Fund	Registered Investment Company	5,458,296
* Vanguard Target Retirement 2025 Fund	Registered Investment Company	6,800,133
* Vanguard Target Retirement 2030 Fund	Registered Investment Company	4,744,788
* Vanguard Target Retirement 2035 Fund	Registered Investment Company	2,475,518
* Vanguard Target Retirement 2040 Fund	Registered Investment Company	2,636,250
* Vanguard Target Retirement 2045 Fund	Registered Investment Company	1,862,692
* Vanguard Target Retirement 2050 Fund	Registered Investment Company	1,441,098
* Vanguard Target Retirement 2055 Fund	Registered Investment Company	922,781
* Vanguard Target Retirement 2060 Fund	Registered Investment Company	123,614
* Vanguard Target Retirement Income	Registered Investment Company	3,017,215
* Vanguard Total Bond Market Index Fund Investor Shares	Registered Investment Company	6,451,747
* Vanguard Total International Bond Index Fund Investor Shr	Registered Investment Company	166,672
* Vanguard U.S. Growth Fund Investor Shares	Registered Investment Company	5,671,765
* Vanguard Windsor II Fund Investor Shares	Registered Investment Company	4,050,117

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* Vanguard Brokerage Option	Vanguard Brokerage Option	1,895,735
* Vanguard Retirement Savings Master Trust	Common/Collective Trust	12,518,131
*# Quaker Chemical Corporation	Common Stock Fund	39,165,893
* Participant notes receivable	(4.25% to 5.5%)	1,703,522
		\$ 141,745,053

\* Party-in-Interest

# Related party

(d) Column (d) is omitted as cost is not required for participant directed investments

Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed by the undersigned hereunto duly authorized.

June 21, 2018

Quaker Chemical Corporation Retirement Savings Plan

By:

/s/ Mary Dean Hall

Mary Dean Hall, Vice President, Chief  
Financial Officer and Treasurer