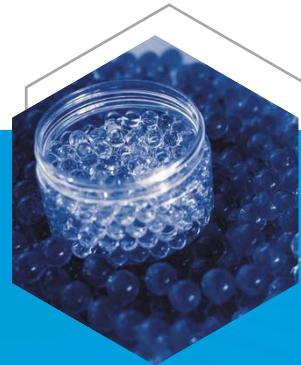




Fourth Quarter 2019

February 20, 2020 – 11:00 AM ET



**INVESTOR PRESENTATION**

# LEGAL DISCLAIMER

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## **Forward-Looking Statements**

Some of the information contained in this presentation, the conference call during which this presentation is reviewed and any discussions that follow constitutes “forward-looking statements”. Forward-looking statements can be identified by words such as “anticipates,” “intends,” “plans,” “seeks,” “believes,” “estimates,” “expects,” “projects” and similar references to future periods. Forward-looking statements are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Examples of forward looking statements include, but are not limited to, statements regarding our future results of operations, financial condition, liquidity, prospects, growth, strategies, product and service offerings and 2020 outlook. Our actual results may differ materially from those contemplated by the forward-looking statements. We caution you, therefore, against relying on any of these forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Important factors that could cause actual results to differ materially from those in the forward-looking statements include, but are not limited to, regional, national or global political, economic, business, competitive, market and regulatory conditions, currency exchange rates and other factors, including those described in the sections titled “Risk Factors” and “Management Discussion & Analysis of Financial Condition and Results of Operations” in our filings with the SEC, which are available on the SEC’s website at [www.sec.gov](http://www.sec.gov). Any forward-looking statement made by us in this presentation, the conference call during which this presentation is reviewed and any discussions that follow speaks only as of the date on which it is made. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We undertake no obligation to update any forward-looking statement, whether as a result of new information, future developments or otherwise, except as may be required by applicable law.

## **Non-GAAP Financial Measures**

This presentation includes certain non-GAAP financial measures, including adjusted EBITDA, adjusted EBITDA margin, constant currency sales and adjusted EBITDA, adjusted net income, adjusted diluted EPS, and adjusted free cash flow, which are provided to assist in an understanding of our business and its performance. These non-GAAP financial measures should be considered only as supplemental to, and not as superior to, financial measures prepared in accordance with GAAP. Non-GAAP financial measures should be read only in conjunction with consolidated financials prepared in accordance with GAAP. Reconciliations of non-GAAP measures to the relevant GAAP measures are provided in the appendix of this presentation.

In discussing our operating results, the term currency exchange rates refers to the currency exchange rates we use to convert the operating results for all countries where the functional currency is not the U.S. dollar. We calculate constant currency sales and constant currency adjusted EBITDA by translating current period results at the prior period’s currency exchange rates. When we refer to constant currency sales and constant currency adjusted EBITDA, this means sales and adjusted EBITDA without the impact of the currency exchange rate fluctuations from period-to-period.

The Company is not able to provide a reconciliation of the Company’s non-GAAP financial guidance to the corresponding GAAP measures without unreasonable effort because of the inherent difficulty in forecasting and quantifying certain amounts necessary for such a reconciliation such as certain non-cash, nonrecurring or other items, including transaction and restructuring related items, that are included in net income and EBITDA as well as the related tax impacts of these items and asset dispositions/acquisitions and changes in foreign currency exchange rates that are included in cash flow, due to the uncertainty and variability of the nature and amount of these future charges and costs.

## **Zeolyst Joint Venture**

Zeolyst International and Zeolyst C.V. (our 50% owned joint ventures that we refer to collectively as the “Zeolyst Joint Venture”), are accounted for as an equity method investment in accordance with GAAP. The presentation of the Zeolyst Joint Venture’s sales in this presentation represents 50% of the sales of the Zeolyst Joint Venture. We do not record sales by the Zeolyst Joint Venture as revenue and such sales are not consolidated within our results of operations. However, our adjusted EBITDA reflects our share of the earnings of the Zeolyst Joint Venture that have been recorded as equity in net income from affiliated companies in our consolidated statements of income for such periods and includes Zeolyst Joint Venture adjustments on a proportionate basis based on our 50% ownership interest. Accordingly, our adjusted EBITDA margins are calculated including 50% of the sales of the Zeolyst Joint Venture for the relevant periods in the denominator.

# 2019 HIGHLIGHTS

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- ◆ Best safety performance in the last decade
- ◆ Improved pricing and cost efficiency in Performance Materials
- ◆ Outstanding Catalysts volume growth from combination of hydrocracking, polyolefin and methyl methacrylates product lines
- ◆ Advanced portfolio optimization, including non-core asset sales
- ◆ Record Adjusted free cash flow
- ◆ Expanded Adjusted EBITDA margins
- ◆ Reduced leverage ratio more than ½ turn

## 2019 FINANCIAL RESULTS

| (\$ in millions)                          | Fourth Quarter 2019 | Fourth Quarter 2018 | \$ Change | % Change | % Constant Currency |
|---|---------------------|---------------------|-----------|----------|---------------------|
| Sales                                     | 352.4               | 380.1               | (27.7)    | (7.3%)   | (6.6%)              |
| Adjusted EBITDA                           | 103.1               | 109.1               | (6.0)     | (5.5%)   | (4.9%)              |
| <i>Adjusted EBITDA Margin<sup>1</sup></i> | 25.8 %              | 26.2%               |           | (40 bps) |                     |

| (\$ in millions)                          | Full Year 2019 | Full Year 2018 | \$ Change | % Change | % Constant Currency |
|---|----------------|----------------|-----------|----------|---------------------|
| Sales                                     | 1,567.1        | 1,608.2        | (41.1)    | (2.6%)   | (0.7%)              |
| Adjusted EBITDA                           | 474.3          | 464.0          | 10.3      | 2.2%     | 3.7%                |
| <i>Adjusted EBITDA Margin<sup>1</sup></i> | 27.3%          | 26.3%          |           | 100 bps  |                     |



# REFINING SERVICES

| (\$ in millions)              | Fourth Quarter 2019 | Fourth Quarter 2018 | \$ Change | % Change  | % Constant Currency |
|-------------------------------|---------------------|---------------------|-----------|-----------|---------------------|
| Sales                         | 105.7               | 119.4               | (13.7)    | (11.5%)   | (11.5%)             |
| Adjusted EBITDA               | 41.9                | 50.1                | (8.2)     | (16.4%)   | (16.4%)             |
| <i>Adjusted EBITDA Margin</i> | 39.6%               | 42.0%               |           | (240 bps) |                     |

- Sales impacted by the pass through of lower sulfur pricing (~\$7 million) coupled with lower volume from unplanned customer outages and weaker demand for virgin acid
- Adjusted EBITDA lower on volume impact and prior year insurance recovery gain (\$4 million)

| Q4 Change Factors   |               |
|---------------------|---------------|
| <b>Sales:</b>       | %             |
| Volume              | (10.4)        |
| Price/Mix           | (1.1)         |
| Currency            | -             |
| <b>Sales Change</b> | <b>(11.5)</b> |

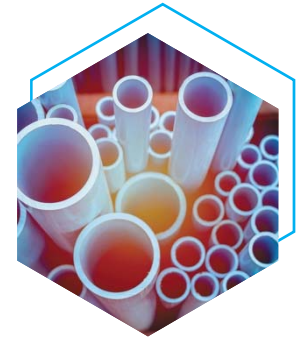


# CATALYSTS

| (\$ in millions)                    | Fourth Quarter 2019 | Fourth Quarter 2018 | \$ Change | % Change | % Constant Currency |
|-------------------------------------|---------------------|---------------------|-----------|----------|---------------------|
| Sales                               |                     |                     |           |          |                     |
| Silica Catalysts                    | 23.3                | 22.0                | 1.3       | 5.9%     | 5.9%                |
| Zeolyst JV                          | 47.3                | 36.5                | 10.8      | 29.6%    | 29.6%               |
| Adjusted EBITDA                     | 28.5                | 18.9                | 9.6       | 50.8%    | 50.8%               |
| Adjusted EBITDA Margin <sup>1</sup> | 40.4%               | 32.3%               |           | 810 bps  |                     |

- Silica Catalysts sales benefited from accelerated MMA sales
- Zeolyst JV reflects strong hydrocracking catalyst sales
- Adjusted EBITDA and margins increased on higher sales volumes and favorable mix

| Q4 Change Factors   |            |
|---------------------|------------|
| Sales:              | %          |
| Volume              | 2.3        |
| Price/Mix           | 3.6        |
| Currency            | -          |
| <b>Sales Change</b> | <b>5.9</b> |



# PERFORMANCE MATERIALS

| (\$ in millions)              | Fourth Quarter 2019 | Fourth Quarter 2018 | \$ Change | % Change | % Constant Currency |
|-------------------------------|---------------------|---------------------|-----------|----------|---------------------|
| Sales                         | 67.9                | 73.7                | (5.8)     | (7.9%)   | (6.4%)              |
| Adjusted EBITDA               | 11.2                | 10.5                | 0.7       | 6.7%     | 8.6%                |
| <i>Adjusted EBITDA Margin</i> | 16.5%               | 14.2%               |           | 230 bps  |                     |

- Higher pricing offset by lower demand for engineered glass materials driven by European and Asian economic slowdown
- Adjusted EBITDA and margin increased on pricing and lower variable costs

| Q4 Change Factors   |              |
|---------------------|--------------|
| <b>Sales:</b>       | %            |
| Volume              | (11.0)       |
| Price/Mix           | 4.6          |
| Currency            | (1.5)        |
| <b>Sales Change</b> | <b>(7.9)</b> |



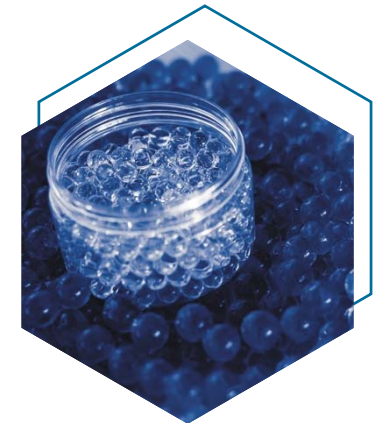


# PERFORMANCE CHEMICALS

| (\$ in millions)       | Fourth Quarter 2019 | Fourth Quarter 2018 | \$ Change | % Change  | % Constant Currency |
|------------------------|---------------------|---------------------|-----------|-----------|---------------------|
| Sales                  | 158.9               | 168.8               | (9.9)     | (5.9%)    | (5.1%)              |
| Adjusted EBITDA        | 33.6                | 39.2                | (5.6)     | (14.3%)   | (13.3%)             |
| Adjusted EBITDA Margin | 21.1%               | 23.2%               |           | (210 bps) |                     |

- Sales and Adjusted EBITDA declined on continued weak demand in the Americas for sodium silicate

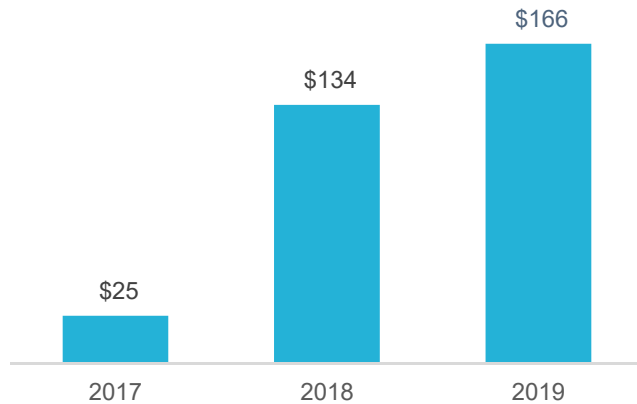
| Q4 Change Factors   |              |
|---------------------|--------------|
| Sales:              | %            |
| Volume              | (7.6)        |
| Price/Mix           | 2.5          |
| Currency            | (0.8)        |
| <b>Sales Change</b> | <b>(5.9)</b> |



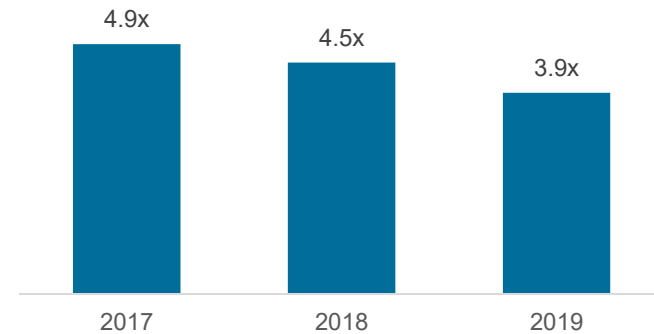


# ADJUSTED FREE CASH FLOW AND LEVERAGE RATIO

**ADJUSTED FREE CASH FLOW (\$mm)**  
Adjusted Free Cash Flow used to repay debt



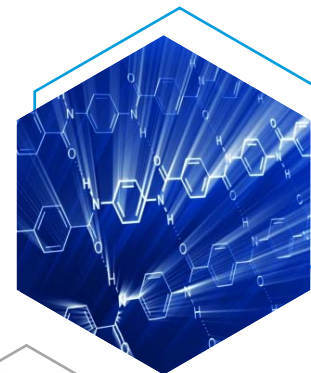
**NET DEBT/ADJUSTED EBITDA RATIO**  
Progress to leverage target of 3.0 – 3.5x



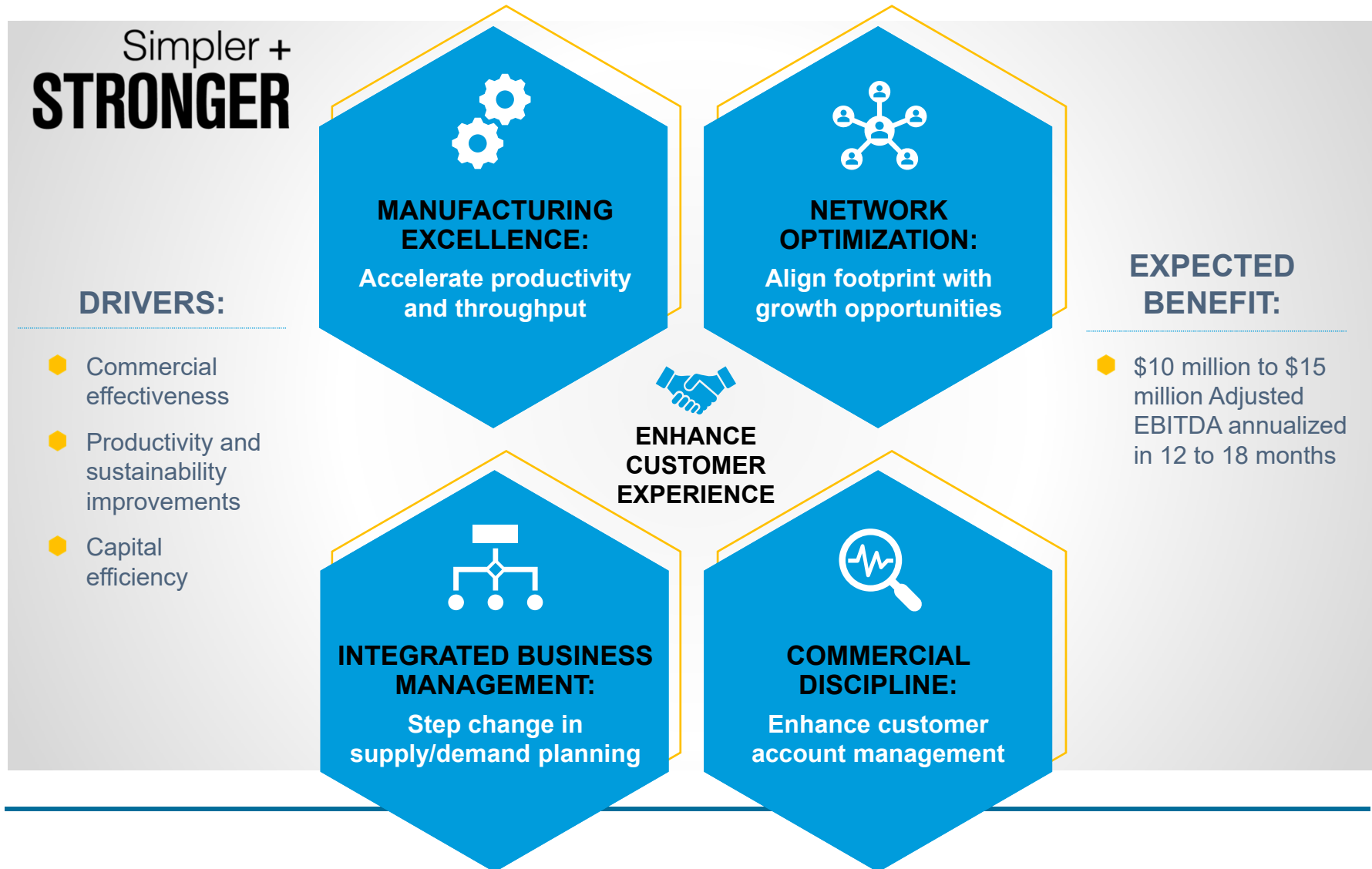
- Record Adjusted free cash flow
- Repaid debt of \$215 million and lowered leverage ratio by 0.6x
- Repricing and extension of term loan in Q1 2020

# 2020 GUIDANCE

| (\$ in millions,<br>except % and per share) | 2019<br>Actual | 2020<br>Outlook |
|---|----------------|-----------------|
| Sales                                       | 1,567.1        | 1,595 – 1,625   |
| Adjusted EBITDA                             | 474.3          | 470 – 480       |
| Adjusted Free Cash Flow                     | 166.2          | 155 – 175       |
| Adjusted Diluted EPS                        | 0.92           | 0.85 – 1.02     |
| Interest Expense                            | 111.5          | 100 – 105       |
| Depreciation & Amortization                 |                |                 |
| PQ  | 182.1          | 180 – 190       |
| Zeolyst JV                                  | 14.7           | 14 – 16         |
| Capital Expenditures                        | 127.6          | 130 – 140       |
| Effective Tax Rate (ex tax reform)          | 24.6%          | Mid 20%         |



# PERFORMANCE CHEMICALS TRANSFORMATION



# STRONG PORTFOLIO OUTLOOK

## Track Record

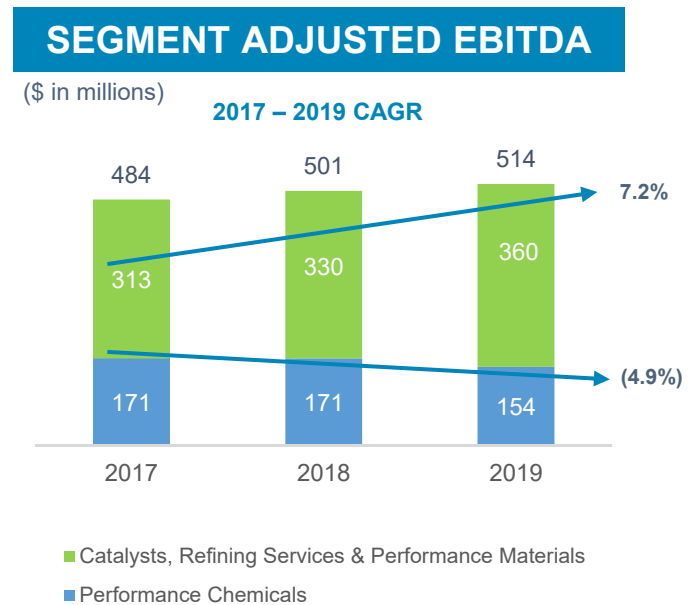
- Three of four businesses (Catalysts, Refining Services and Performance Materials) delivered 7% growth from 2017 through 2019; Performance Chemicals was down 5% over same period
- Delivered strong Adjusted free cash flow and 1.0x reduction in leverage ratio

## 2020 Focus

- Continue to execute in the performing businesses
- Return Performance Chemicals to growth through transformation
- Deliver strong Adjusted free cash flow and execute portfolio optimization

## Beyond 2020

- Drive mid-to-high single digit organic growth across Catalysts, Performance Materials and Refining Services
- Transform Performance Chemicals to reverse trends and drive sustainable GDP level growth
- Enhance financial flexibility, enabling inorganic growth



# APPENDIX



# ADJUSTED FREE CASH FLOW

| (\$ in millions)  | Full Year<br>2019 | Full Year<br>2018 | Full Year<br>2017 |
|---|-------------------|-------------------|-------------------|
| <b>Cash Flow from Operations before interest and tax</b>      | <b>401.9</b>      | <b>377.5</b>      | <b>364.5</b>      |
| Less:   |                   |                   |                   |
| Cash paid for taxes   | 17.4              | 23.8              | 29.2              |
| Cash paid for interest <sup>1</sup>                           | 116.8             | 105.1             | 170.1             |
| <b>Cash Flow from Operations</b>                              | <b>267.7</b>      | <b>248.6</b>      | <b>165.2</b>      |
| Less: Purchases of property, plant and equipment <sup>2</sup> | 127.6             | 131.7             | 140.5             |
| <b>Free Cash Flow</b>   | <b>140.1</b>      | <b>116.9</b>      | <b>24.7</b>       |
| Plus: Proceeds from sale of assets                            | 17.6              | 12.4              | -                 |
| Plus: Net interest proceeds on currency swaps                 | 8.5               | 4.9               | -                 |
| <b>Adjusted Free Cash Flow</b>                                | <b>166.2</b>      | <b>134.2</b>      | <b>24.7</b>       |



# SUPPLEMENTAL INFORMATION

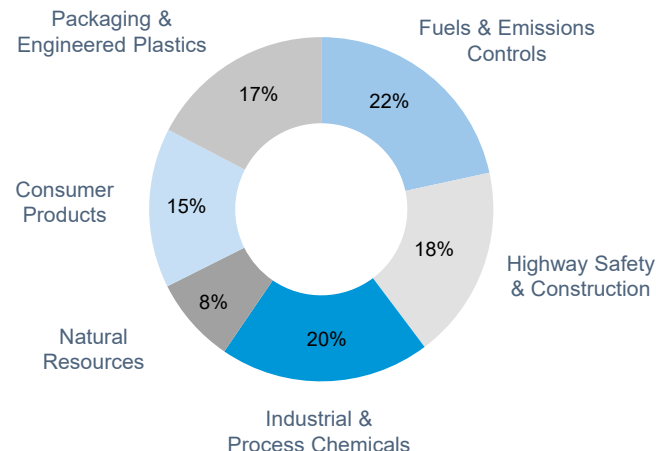
## 2019 Capital Expenditures, Capitalization and Sales by End Use

| CAPITAL EXPENDITURES <sup>1</sup><br>(\$ in millions) | Year Ended<br>December 31,<br>2019 | Year Ended<br>December 31,<br>2018 |
|---|------------------------------------|------------------------------------|
| Maintenance <sup>2</sup>                              | 97.8                               | 94.7                               |
| Growth <sup>3</sup>                                   | 29.8                               | 37.0                               |
| <b>Total</b>  | <b>127.6</b>                       | <b>131.7</b>                       |

| % OF SALES GROWTH BY END USE <sup>4</sup> |       |
|---|-------|
| Fuels & Emissions Controls                | 5%    |
| Highway Safety & Construction             | ( 1%) |
| Industrial & Process Chemicals            | ( 3%) |
| Natural Resources                         | ( 8%) |
| Consumer Products                         | ( 4%) |
| Packaging & Engineered Plastics           | ( 2%) |

| CAPITALIZATION                  | December 31,<br>2019    |
|---------------------------------|-------------------------|
| <b>Debt:</b>                    | <b>(\$ in millions)</b> |
| ABL Revolving Credit Facility   | —                       |
| USD First Lien Term Loan        | 947.5                   |
| First Lien Secured Notes        | 625.0                   |
| <b>Total First Lien Debt</b>    | <b>1,572.5</b>          |
| Senior Unsecured Notes          | 295.0                   |
| Other debt                      | 64.6                    |
| <b>Total Debt</b>               | <b>1,932.1</b>          |
| Cash                            | 72.3                    |
| <b>Net Debt</b>                 | <b>1,859.8</b>          |
| <b>Net Debt/Adjusted EBITDA</b> | <b>3.9x</b>             |

### % OF SALES BY END USE<sup>4</sup>



- (1) Excludes the Company's proportionate share of capital expenditures from the Zeolyst Joint Venture  
(2) Includes the cash impact from changes in capital expenditures in accounts payable and capitalized interest  
(3) Growth capital includes capital used to reduce fixed costs  
(4) Sales includes proportionate 50% share of sales from Zeolyst Joint Venture



# QUARTERLY SEGMENT SALES, ADJUSTED EBITDA AND MARGINS

## Year 2019, 2018 and 2017

| (\$ in millions except %, unaudited)            | Three Months Ended |               |                    |                   | Year Ended        | Three Months Ended |               |                    |                   | Year Ended        | Year Ended        |
|---|--------------------|---------------|--------------------|-------------------|-------------------|--------------------|---------------|--------------------|-------------------|-------------------|-------------------|
|   | March 31, 2019     | June 30, 2019 | September 30, 2019 | December 31, 2019 | December 31, 2019 | March 31, 2018     | June 30, 2018 | September 30, 2018 | December 31, 2018 | December 31, 2018 | December 31, 2017 |
| <b>Sales:</b>                                   |                    |               |                    |                   |                   |                    |               |                    |                   |                   |                   |
| Refining Services                               | 105.8              | 117.3         | 118.3              | 105.7             | 447.1             | 100.7              | 112.1         | 123.4              | 119.4             | 455.6             | 398.4             |
| Silica Catalysts                                | 15.9               | 20.9          | 25.6               | 23.3              | 85.7              | 16.5               | 17.3          | 16.3               | 22.0              | 72.1              | 75.3              |
| Performance Materials                           | 61.1               | 118.9         | 115.1              | 67.9              | 363.0             | 62.7               | 126.5         | 115.4              | 73.7              | 378.3             | 324.2             |
| Performance Chemicals                           | 180.5              | 177.8         | 167.9              | 158.9             | 685.1             | 190.0              | 183.8         | 174.7              | 168.8             | 717.3             | 687.6             |
| Eliminations                                    | (4.1)              | (3.2)         | (3.1)              | (3.4)             | (13.8)            | (3.7)              | (5.0)         | (2.6)              | (3.8)             | (15.1)            | (13.4)            |
| <b>Total sales</b>                              | <b>359.2</b>       | <b>431.7</b>  | <b>423.8</b>       | <b>352.4</b>      | <b>1,567.1</b>    | <b>366.2</b>       | <b>434.7</b>  | <b>427.2</b>       | <b>380.1</b>      | <b>1,608.2</b>    | <b>1,472.1</b>    |
| Zeolyst joint venture sales                     | 29.5               | 39.1          | 54.4               | 47.3              | 170.3             | 38.3               | 49.5          | 32.3               | 36.5              | 156.7             | 143.8             |
| <b>Adjusted EBITDA:</b>                         |                    |               |                    |                   |                   |                    |               |                    |                   |                   |                   |
| Refining Services                               | 39.7               | 42.8          | 51.2               | 41.9              | 175.6             | 35.5               | 41.3          | 49.6               | 50.1              | 176.5             | 154.2             |
| Catalysts                                       | 18.1               | 29.6          | 31.6               | 28.5              | 107.8             | 22.9               | 23.6          | 15.7               | 18.9              | 81.1              | 89.4              |
| Performance Materials                           | 10.5               | 29.2          | 25.8               | 11.2              | 76.7              | 12.1               | 28.6          | 21.3               | 10.5              | 72.5              | 69.7              |
| Performance Chemicals                           | 42.7               | 41.2          | 36.8               | 33.6              | 154.3             | 45.1               | 44.8          | 41.8               | 39.2              | 170.9             | 170.5             |
| <b>Total Segment Adjusted EBITDA</b>            | <b>111.0</b>       | <b>142.8</b>  | <b>145.4</b>       | <b>115.2</b>      | <b>514.4</b>      | <b>115.6</b>       | <b>138.3</b>  | <b>128.4</b>       | <b>118.7</b>      | <b>501.0</b>      | <b>483.8</b>      |
| Corporate                                       | (10.0)             | (10.3)        | (7.7)              | (12.1)            | (40.1)            | (7.7)              | (9.4)         | (10.3)             | (9.6)             | (37.0)            | (30.5)            |
| <b>Total Adjusted EBITDA</b>                    | <b>101.0</b>       | <b>132.5</b>  | <b>137.7</b>       | <b>103.1</b>      | <b>474.3</b>      | <b>107.9</b>       | <b>128.9</b>  | <b>118.1</b>       | <b>109.1</b>      | <b>464.0</b>      | <b>453.3</b>      |
| <b>Adjusted EBITDA Margin:</b>                  |                    |               |                    |                   |                   |                    |               |                    |                   |                   |                   |
| Refining Services                               | 37.5%              | 36.5%         | 43.3%              | 39.6%             | 39.3%             | 35.3%              | 36.8%         | 40.2%              | 42.0%             | 38.7%             | 38.7%             |
| Catalysts <sup>1</sup>                          | 40.0%              | 49.4%         | 39.5%              | 40.4%             | 42.1%             | 41.8%              | 35.3%         | 32.3%              | 32.3%             | 35.4%             | 40.8%             |
| Performance Materials                           | 17.2%              | 24.6%         | 22.4%              | 16.5%             | 21.1%             | 19.3%              | 22.6%         | 18.5%              | 14.2%             | 19.2%             | 21.5%             |
| Performance Chemicals                           | 23.7%              | 23.1%         | 21.9%              | 21.1%             | 22.5%             | 23.7%              | 24.4%         | 23.9%              | 23.2%             | 23.8%             | 24.8%             |
| <b>Total Adjusted EBITDA Margin<sup>1</sup></b> | <b>26.0%</b>       | <b>28.1%</b>  | <b>28.8%</b>       | <b>25.8%</b>      | <b>27.3%</b>      | <b>26.7%</b>       | <b>26.6%</b>  | <b>25.7%</b>       | <b>26.2%</b>      | <b>26.3%</b>      | <b>28.1%</b>      |

# SALES AND ADJUSTED EBITDA MAJOR CHANGE FACTORS

Fourth Quarter 2019 and Year 2019

## SALES

| Sales<br>(in \$ millions and %) | Three months ended<br>December 31, 2019 |       |                   |        |           |     |                       |        |                       |       |
|---------------------------------|---|-------|-------------------|--------|-----------|-----|-----------------------|--------|-----------------------|-------|
|                                 | PQ Group Holdings Inc.                  |       | Refining Services |        | Catalysts |     | Performance Materials |        | Performance Chemicals |       |
|                                 | \$                                      | %     | \$                | %      | \$        | %   | \$                    | %      | \$                    | %     |
| Sales:                          |   |       |                   |        |           |     |                       |        |                       |       |
| Volume                          | (32.5)                                  | (8.6) | (12.4)            | (10.4) | 0.5       | 2.3 | (8.1)                 | (11.0) | (12.8)                | (7.6) |
| Price/Mix                       | 7.2                                     | 1.9   | (1.3)             | (1.1)  | 0.8       | 3.6 | 3.4                   | 4.6    | 4.3                   | 2.5   |
| Currency                        | (2.4)                                   | (0.6) | —                 | —      | —         | —   | (1.1)                 | (1.5)  | (1.4)                 | (0.8) |
| Sales Change                    | (27.7)                                  | (7.3) | (13.7)            | (11.5) | 1.3       | 5.9 | (5.8)                 | (7.9)  | (9.9)                 | (5.9) |

| Year Ended<br>December 31, 2019 |       |                   |       |           |       |                       |       |                       |       |
|---------------------------------|-------|-------------------|-------|-----------|-------|-----------------------|-------|-----------------------|-------|
| PQ Group Holdings Inc.          |       | Refining Services |       | Catalysts |       | Performance Materials |       | Performance Chemicals |       |
| \$                              | %     | \$                | %     | \$        | %     | \$                    | %     | \$                    | %     |
| (78.9)                          | (4.9) | (30.4)            | (6.7) | 11.6      | 16.1  | (28.5)                | (7.5) | (32.5)                | (4.5) |
| 67.0                            | 4.2   | 21.9              | 4.8   | 3.3       | 4.6   | 22.8                  | 6.0   | 19.0                  | 2.6   |
| (29.2)                          | (1.9) | —                 | —     | (1.3)     | (1.8) | (9.6)                 | (2.5) | (18.7)                | (2.6) |
| (41.1)                          | (2.6) | (8.5)             | (1.9) | 13.6      | 18.9  | (15.3)                | (4.0) | (32.2)                | (4.5) |

## ADJUSTED EBITDA

| Adjusted EBITDA<br>(in \$ millions and %) | Three months ended<br>December 31, 2019 |        |                   |        |           |       |                       |        |                       |        |
|---|---|--------|-------------------|--------|-----------|-------|-----------------------|--------|-----------------------|--------|
|   | PQ Group Holdings Inc.                  |        | Refining Services |        | Catalysts |       | Performance Materials |        | Performance Chemicals |        |
|   | \$                                      | %      | \$                | %      | \$        | %     | \$                    | %      | \$                    | %      |
| Adjusted EBITDA:                          |   |        |                   |        |           |       |                       |        |                       |        |
| Volume/Mix                                | (16.2)                                  | (14.8) | (9.1)             | (18.2) | 4.8       | 25.4  | (5.9)                 | (56.2) | (6.0)                 | (15.3) |
| Price                                     | 8.5                                     | 7.8    | (1.3)             | (2.6)  | 2.2       | 11.6  | 3.4                   | 32.4   | 4.3                   | 11.0   |
| Variable Cost                             | 12.6                                    | 11.5   | 7.4               | 14.8   | 3.1       | 16.4  | 4.6                   | 43.8   | (3.4)                 | (8.7)  |
| Currency                                  | (1.4)                                   | (1.3)  | —                 | —      | —         | —     | (0.2)                 | (1.9)  | (0.4)                 | (1.0)  |
| Other                                     | (9.5)                                   | (8.7)  | (5.2)             | (10.4) | (0.5)     | (2.6) | (1.2)                 | (11.4) | (0.1)                 | (0.3)  |
| Adjusted EBITDA Change                    | (6.0)                                   | (5.5)  | (8.2)             | (16.4) | 9.6       | 50.8  | 0.7                   | 6.7    | (5.6)                 | (14.3) |

| Year Ended<br>December 31, 2019 |       |                   |        |           |       |                       |        |                       |        |
|---------------------------------|-------|-------------------|--------|-----------|-------|-----------------------|--------|-----------------------|--------|
| PQ Group Holdings Inc.          |       | Refining Services |        | Catalysts |       | Performance Materials |        | Performance Chemicals |        |
| \$                              | %     | \$                | %      | \$        | %     | \$                    | %      | \$                    | %      |
| (40.7)                          | (8.8) | (21.3)            | (12.1) | 5.9       | 7.2   | (15.4)                | (21.2) | (9.9)                 | (5.8)  |
| 70.7                            | 15.2  | 21.9              | 12.4   | 7.1       | 8.8   | 22.8                  | 31.4   | 19.0                  | 11.1   |
| (7.0)                           | (1.5) | 6.8               | 3.9    | 1.3       | 1.6   | 2.1                   | 2.9    | (18.1)                | (10.6) |
| (7.9)                           | (1.7) | —                 | —      | (0.9)     | (1.1) | (1.3)                 | (1.8)  | (4.9)                 | (2.8)  |
| (4.8)                           | (1.0) | (8.3)             | (4.7)  | 13.3      | 16.4  | (4.0)                 | (5.5)  | (2.7)                 | (1.6)  |
| 10.3                            | 2.2   | (0.9)             | (0.5)  | 26.7      | 32.9  | 4.2                   | 5.8    | (16.6)                | (9.7)  |

# RECONCILIATION OF NET INCOME TO SEGMENT ADJUSTED EBITDA

Year 2019, 2018 and 2017

| (\$ in millions)   | Three Months Ended |                  |                          |                      | Year Ended              | Three Months Ended |                  |                          |                         | Year Ended              | Year Ended              |
|--|--------------------|------------------|--------------------------|----------------------|-------------------------|--------------------|------------------|--------------------------|-------------------------|-------------------------|-------------------------|
|  | March 31,<br>2019  | June 30,<br>2019 | September<br>30,<br>2019 | December<br>31, 2019 | December<br>31,<br>2019 | March 31,<br>2018  | June 30,<br>2018 | September<br>30,<br>2018 | December<br>31,<br>2018 | December<br>31,<br>2018 | December<br>31,<br>2017 |
| Reconciliation of net income attributable to PQ Group Holdings Inc. to Segment Adjusted EBITDA |                    |                  |                          |                      |                         |                    |                  |                          |                         |                         |                         |
| Net income attributable to PQ Group Holdings Inc.  | 3.2                | 30.6             | 26.7                     | 19.1                 | 79.5                    | 0.2                | 15.8             | 14.2                     | 28.2                    | 58.3                    | 57.6                    |
| Provision for (benefit from) income taxes  | 2.4                | 20.3             | 16.7                     | 1.2                  | 40.7                    | (0.5)              | 13.6             | 8.5                      | 7.4                     | 29.0                    | (119.2)                 |
| Interest expense   | 28.6               | 28.5             | 27.7                     | 26.7                 | 111.5                   | 29.2               | 27.2             | 28.2                     | 29.1                    | 113.7                   | 179.0                   |
| Depreciation and amortization  | 45.9               | 45.1             | 44.2                     | 46.9                 | 182.1                   | 48.5               | 47.0             | 43.8                     | 45.9                    | 185.2                   | 177.1                   |
| <b>EBITDA</b>  | <b>80.1</b>        | <b>124.5</b>     | <b>115.3</b>             | <b>93.9</b>          | <b>413.8</b>            | <b>77.4</b>        | <b>103.6</b>     | <b>94.7</b>              | <b>110.6</b>            | <b>386.2</b>            | <b>294.5</b>            |
| Joint venture depreciation, amortization and interest <sup>a</sup>                             | 3.8                | 3.7              | 3.7                      | 3.5                  | 14.7                    | 3.3                | 2.6              | 3.3                      | 3.4                     | 12.6                    | 11.1                    |
| Amortization of investment in affiliate step-up <sup>b</sup>                                   | 2.6                | 1.7              | 1.7                      | 1.7                  | 7.5                     | 1.7                | 1.7              | 1.7                      | 1.6                     | 6.6                     | 8.6                     |
| Amortization of inventory step-up <sup>c</sup>   | —                  | —                | —                        | —                    | —                       | 1.6                | —                | —                        | —                       | 1.6                     | 0.9                     |
| Impairment of fixed assets, intangibles and goodwill   | —                  | —                | —                        | 1.6                  | 1.6                     | —                  | —                | —                        | —                       | —                       | —                       |
| Debt extinguishment costs  | —                  | —                | 1.8                      | 1.6                  | 3.4                     | 5.9                | —                | 0.9                      | 1.1                     | 7.8                     | 61.9                    |
| Net loss (gain) on asset disposals <sup>d</sup>  | 0.8                | (9.7)            | 1.1                      | (5.3)                | (13.1)                  | 1.2                | 4.8              | 5.2                      | (4.5)                   | 6.6                     | 5.8                     |
| Foreign currency exchange (gain) loss <sup>e</sup>   | (2.7)              | 3.6              | 4.5                      | (2.6)                | 2.8                     | 5.1                | 6.8              | 3.5                      | (1.5)                   | 13.8                    | 25.8                    |
| LIFO expense <sup>f</sup>  | 10.2               | 0.1              | 0.5                      | 0.3                  | 11.1                    | 4.9                | 0.1              | 0.9                      | 2.5                     | 8.4                     | 3.7                     |
| Management advisory fees <sup>g</sup>  | —                  | —                | —                        | —                    | —                       | —                  | —                | —                        | —                       | —                       | 3.8                     |
| Transaction and other related costs <sup>h</sup>   | 0.1                | 1.0              | 0.7                      | 1.8                  | 3.6                     | 0.4                | 0.3              | 0.2                      | —                       | 0.9                     | 7.4                     |
| Equity-based and other non-cash compensation   | 3.4                | 5.4              | 4.8                      | 4.6                  | 18.2                    | 3.8                | 3.8              | 4.3                      | 7.6                     | 19.5                    | 8.8                     |
| Restructuring, integration and business optimization expenses <sup>i</sup>                     | 0.7                | —                | 0.7                      | 2.7                  | 4.1                     | 1.1                | 2.4              | 2.2                      | 8.3                     | 14.0                    | 13.2                    |
| Defined benefit plan pension cost (benefit) <sup>j</sup>                                       | 1.0                | 0.6              | 0.8                      | 0.7                  | 3.1                     | 0.6                | (0.4)            | 0.1                      | (1.1)                   | (0.8)                   | 2.9                     |
| Gain on contract termination <sup>k</sup>  | —                  | —                | —                        | —                    | —                       | —                  | —                | —                        | (20.6)                  | (20.6)                  | —                       |
| Other <sup>l</sup>   | 1.0                | 1.6              | 2.1                      | (1.4)                | 3.5                     | 0.9                | 3.2              | 1.1                      | 1.7                     | 7.4                     | 4.9                     |
| <b>Adjusted EBITDA</b>   | <b>101.0</b>       | <b>132.5</b>     | <b>137.7</b>             | <b>103.1</b>         | <b>474.3</b>            | <b>107.9</b>       | <b>128.9</b>     | <b>118.1</b>             | <b>109.1</b>            | <b>464.0</b>            | <b>453.3</b>            |
| Unallocated corporate costs  | 10.0               | 10.3             | 7.7                      | 12.1                 | 40.1                    | 7.7                | 9.4              | 10.3                     | 9.7                     | 37.0                    | 30.5                    |
| <b>Total Segment Adjusted EBITDA<sup>1</sup></b>   | <b>111.0</b>       | <b>142.8</b>     | <b>145.4</b>             | <b>115.2</b>         | <b>514.4</b>            | <b>115.6</b>       | <b>138.3</b>     | <b>128.4</b>             | <b>118.8</b>            | <b>501.0</b>            | <b>483.8</b>            |
| <b>EBITDA Adjustments by Line Item</b>   |                    |                  |                          |                      |                         |                    |                  |                          |                         |                         |                         |
| <b>EBITDA</b>  | <b>80.1</b>        | <b>124.5</b>     | <b>115.3</b>             | <b>93.9</b>          | <b>413.8</b>            | <b>77.4</b>        | <b>103.6</b>     | <b>94.7</b>              | <b>110.6</b>            | <b>386.2</b>            | <b>294.5</b>            |
| Cost of goods sold   | 10.8               | 0.4              | 0.9                      | 0.9                  | 13.0                    | 7.3                | 2.6              | 2.1                      | 4.3                     | 16.3                    | 7.9                     |
| Selling, general and administrative expenses   | 4.4                | 5.9              | 5.7                      | 5.6                  | 21.6                    | 4.9                | 4.8              | 5.4                      | 7.9                     | 23.0                    | 13.2                    |
| Other operating expense (income), net  | 1.8                | (7.3)            | 6.5                      | (1.0)                | —                       | 2.4                | 7.2              | 7.3                      | (17.8)                  | (0.9)                   | 31.5                    |
| Equity in net (income) from affiliated companies   | 2.6                | 1.7              | 1.7                      | 1.7                  | 7.7                     | 1.7                | 1.7              | 1.7                      | 1.6                     | 6.6                     | 8.6                     |
| Other expense (income), net <sup>2</sup>   | (2.5)              | 3.6              | 3.9                      | (1.5)                | 3.5                     | 10.9               | 6.4              | 3.6                      | (0.9)                   | 20.2                    | 86.5                    |
| Joint venture depreciation, amortization and interest(a)                                       | 3.8                | 3.7              | 3.7                      | 3.5                  | 14.7                    | 3.3                | 2.6              | 3.3                      | 3.4                     | 12.6                    | 11.1                    |
| <b>Adjusted EBITDA</b>   | <b>101.0</b>       | <b>132.5</b>     | <b>137.7</b>             | <b>103.1</b>         | <b>474.3</b>            | <b>107.9</b>       | <b>128.9</b>     | <b>118.1</b>             | <b>109.1</b>            | <b>464.0</b>            | <b>453.3</b>            |



(1) For additional information with respect to each adjustment, see "Reconciliation of Non-GAAP Financial Measures"  
(2) Other expense (income), net includes debt extinguishment costs

# RECONCILIATION OF QUARTERLY NET INCOME TO ADJUSTED NET INCOME AND ADJUSTED DILUTED EARNINGS PER SHARE

Year 2019 and 2018

| (\$ in millions except share and per share data)                           | Three Months Ended |               |                    |                   | Year Ended        | Three Months Ended |               |                    |                   | Year Ended        |
|--|--------------------|---------------|--------------------|-------------------|-------------------|--------------------|---------------|--------------------|-------------------|-------------------|
|  | March 31, 2019     | June 30, 2019 | September 30, 2019 | December 31, 2019 | December 31, 2019 | March 31, 2018     | June 30, 2018 | September 30, 2018 | December 31, 2018 | December 31, 2018 |
| Net Income   | 3.5                | 30.7          | 26.8               | 19.4              | 80.3              | 0.5                | 16.2          | 14.4               | 28.5              | 59.6              |
| Less: Net income attributable to the non-controlling interest              | 0.3                | 0.1           | 0.1                | 0.3               | 0.8               | 0.3                | 0.4           | 0.2                | 0.3               | 1.3               |
| Net Income attributable to PQ Group Holdings, Inc. <sup>1</sup>            | 3.2                | 30.6          | 26.7               | 19.1              | 79.5              | 0.2                | 15.8          | 14.2               | 28.2              | 58.3              |
| Diluted net income per share:  | 0.02               | 0.23          | 0.20               | 0.14              | 0.59              | —                  | 0.12          | 0.11               | 0.21              | 0.43              |
| Net Income attributable to PQ Group Holdings, Inc. <sup>1</sup>            | 3.2                | 30.6          | 26.7               | 19.1              | 79.5              | 0.2                | 15.8          | 14.2               | 28.2              | 58.3              |
| Amortization of investment in affiliate step-up <sup>b</sup>               | 1.6                | 1.0           | 1.1                | 1.2               | 5.0               | 1.2                | 1.0           | 0.9                | 1.0               | 4.1               |
| Amortization of inventory step-up <sup>c</sup>                             | —                  | —             | —                  | —                 | —                 | 1.1                | —             | —                  | —                 | 1.0               |
| Impairment of long-lived assets  | —                  | —             | —                  | 1.1               | 1.1               | —                  | —             | —                  | —                 | —                 |
| Debt extinguishment costs  | —                  | —             | 1.2                | 1.1               | 2.3               | 4.1                | —             | 0.2                | 0.6               | 4.9               |
| Net loss (gain) on asset disposal <sup>d</sup>                             | 0.5                | (7.4)         | 0.8                | (3.5)             | (9.7)             | 0.8                | 3.1           | 2.9                | (2.7)             | 4.2               |
| Foreign currency exchange (gain) loss <sup>e</sup>                         | (2.0)              | 4.1           | 3.9                | (1.7)             | 4.3               | 2.9                | 5.2           | 4.0                | (3.8)             | 8.2               |
| LIFO expense <sup>f</sup>  | 6.5                | 0.2           | 0.4                | 0.4               | 7.4               | 3.4                | —             | 0.3                | 1.7               | 5.3               |
| Transaction and other related costs <sup>h</sup>                           | 0.1                | 0.6           | 0.4                | 1.3               | 2.4               | 0.3                | 0.2           | 0.1                | —                 | 0.6               |
| Equity-based and other non-cash compensation                               | 2.2                | 3.5           | 3.2                | 3.3               | 12.1              | 2.6                | 2.5           | 2.2                | 7.6               | 14.9              |
| Restructuring, integration and business optimization expenses <sup>i</sup> | 0.5                | —             | 0.5                | 1.8               | 2.7               | 0.7                | 1.6           | 1.2                | 5.3               | 8.8               |
| Defined benefit pension plan cost (benefit) <sup>j</sup>                   | 0.6                | 0.4           | 0.5                | 0.5               | 2.1               | 0.4                | (0.3)         | 0.1                | (0.7)             | (0.5)             |
| Gain on contract termination <sup>k</sup>                                  | —                  | —             | —                  | —                 | —                 | —                  | —             | —                  | (13.0)            | (13.0)            |
| Other <sup>l</sup>   | 0.6                | 1.0           | 1.4                | (1.0)             | 2.2               | 0.7                | 2.0           | 0.4                | 1.3               | 4.6               |
| Adjusted net income, including tax reform and non-cash GILTI tax           | 13.8               | 34.0          | 40.1               | 23.6              | 111.4             | 18.4               | 31.1          | 26.5               | 25.5              | 101.4             |
| Impact of non-cash GILTI tax <sup>2</sup>                                  | 3.7                | 7.5           | 8.2                | (5.6)             | 13.8              | 2.5                | 5.0           | 11.4               | 2.2               | 21.2              |
| Impact of tax reform <sup>3</sup>  | —                  | —             | —                  | 0.0               | 0.0               | —                  | 1.1           | (2.5)              | (4.5)             | (6.0)             |
| Adjusted net income  | 17.5               | 41.5          | 48.3               | 18.0              | 125.2             | 20.9               | 37.2          | 35.4               | 23.2              | 116.6             |
| Adjusted diluted net income per share:                                     | 0.13               | 0.31          | 0.36               | 0.13              | 0.92              | 0.16               | 0.28          | 0.26               | 0.17              | 0.87              |
| Diluted Weighted Average shares outstanding                                | 134.9              | 135.3         | 135.6              | 136.2             | 135.5             | 133.9              | 134.2         | 134.6              | 135.0             | 134.7             |

(1) For additional information with respect to each adjustment, see "Reconciliations of Non-GAAP Financial Measures" within this appendix

(2) Amount represents the impact to tax expense in net income before non-controlling interest and the related adjustments to net income associated with GILTI provisions of the Tax Cuts and Jobs Act of 2017 ("TCJA"). Beginning January 1, 2018, GILTI results in taxation of "excess of foreign earnings," which is defined as amounts greater than a 10% rate of return on applicable foreign tangible asset basis. The Company is required to record incremental tax provision impact with respect to GILTI as a result of having historical U.S. net operating loss ("NOL") amounts to offset the GILTI taxable income inclusion. This NOL utilization precludes us from recognizing foreign tax credits ("FTCs") which would otherwise help offset the tax impacts of GILTI. No FTCs will be recognized with respect to GILTI until our cumulative NOL balance has been exhausted. Because the GILTI provision does not impact our cash taxes (given available U.S. NOLs), and given that we expect to recognize FTCs to offset GILTI impacts once the NOLs are exhausted, we do not view this item as a component of core operations.

(3) Represents the provisional benefit (loss) for the impact of the U.S. Tax Cuts and Jobs Act of 2017 and the Dutch Tax Plan 2019 recorded in Net Income

# RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

## Descriptions to PQ Non-GAAP Reconciliations

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- a) We use Adjusted EBITDA as a performance measure to evaluate our financial results. Because our Catalysts segment includes our 50% interest in the Zeolyst Joint Venture, we include an adjustment for our 50% proportionate share of depreciation, amortization and interest expense of the Zeolyst Joint Venture.
- b) Represents the amortization of the fair value adjustments associated with the equity affiliate investment in the Zeolyst Joint Venture as a result of the combination of the businesses of PQ Holdings Inc. and Eco Services Operations LLC in May 2016 (the "Business Combination"). We determined the fair value of the equity affiliate investment and the fair value step-up was then attributed to the underlying assets of the Zeolyst Joint Venture. Amortization is primarily related to the fair value adjustments associated with inventory, fixed assets and intangible assets, including customer relationships and technical know-how.
- c) As a result of the Sovitec acquisition and the Business Combination, there was a step-up in the fair value of inventory, which is amortized through cost of goods sold in the statements of income.
- d) When asset disposals occur, we remove the impact of net gain/loss of the disposed asset because such impact primarily reflects the non-cash write-off of long-lived assets no longer in use. During the year ended December 31, 2019, the net gain on asset disposals includes the gains related to the sale of a non-core product line and sale of property.
- e) Reflects the exclusion of the foreign currency transaction gains and losses in the statements of income primarily related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars and, during 2018 and 2017, the Euro denominated term loan (which was settled as part of the February 2018 term loan refinancing).
- f) Represents non-cash adjustments to the Company's LIFO reserves for certain inventories in the U.S. that are valued using the LIFO method, which we believe provides a means of comparison to other companies that may not use the same basis of accounting for inventories.
- g) Reflects consulting fees paid to CCMP and affiliates of INEOS for consulting services that include certain financial advisory and management services. These consulting agreements were terminated upon completion of our initial public offering ("IPO") on October 3, 2017.
- h) Represents the costs related to several transactions that are completed, pending or abandoned and that we believe are not representative of our ongoing business operations.
- i) Includes the impact of restructuring, integration and business optimization expenses which are incremental costs that are not representative of our ongoing business operations.
- j) Represents adjustments for defined benefit pension plan costs in our statements of income. More than two-thirds of our defined benefit pension plan obligations are under defined benefit pension plans that are frozen, and the remaining obligations primarily relate to plans operated in certain of our non-U.S. locations that, pursuant to jurisdictional requirements, cannot be frozen. As such, we do not view such expenses as core to our ongoing business operations.
- k) Represents a non-cash gain on the write-off of the remaining liability under a contractual supply arrangement. As part of the acquisition by Eco Services Operations LLC of substantially all of the assets of Solvay USA Inc.'s sulfuric acid refining business unit on December 1, 2014, we recognized a liability as part of business combination accounting related to our obligation to serve a customer under a pre-existing unfavorable supply agreement. In December 2018, the customer who was party to the agreement closed its facility, and as a result, we were relieved from our obligation to continue to supply the customer on the below market contract. Because the fair value of the unfavorable contract liability was recognized as part of the application of business combination accounting, and since the write-off of the remaining liability was non-cash in nature, we believe this gain is a special item that is not representative of our ongoing business operations.
- l) Other costs consist of certain expenses that are not core to our ongoing business operations, including environmental remediation-related costs associated with the legacy operations of our business prior to the Business Combination, capital and franchise taxes, non-cash asset retirement obligation accretion and the initial implementation of procedures to comply with Section 404 of the Sarbanes-Oxley Act. Included in this line-item are rounding discrepancies that may arise from rounding from dollars (in thousands) to dollars (in millions).

# CONSTANT CURRENCY SALES AND ADJUSTED EBITDA

Fourth Quarter and Year 2019 Versus 2018

| (\$ in millions except %, unaudited) | Three Months Ended<br>December 31, 2019 |            |                      | Three Months Ended<br>December 31,<br>2018 |                                  | Year Ended<br>December 31, 2019 |             |                      | Year Ended<br>December 31,<br>2018 |                                  |
|--------------------------------------|---|------------|----------------------|--|----------------------------------|---------------------------------|-------------|----------------------|------------------------------------|----------------------------------|
|                                      | As Reported                             | FX Impact  | Constant<br>Currency | As Reported                                | Constant<br>Currency %<br>Change | As Reported                     | FX Impact   | Constant<br>Currency | As Reported                        | Constant<br>Currency %<br>Change |
| <b>Sales:</b>                        | \$                                      | \$         | \$                   | \$   | %                                | \$                              | \$          | \$                   | \$                                 | %                                |
| Refining Services                    | 105.7                                   | —          | 105.7                | 119.4                                      | (11.5)                           | 447.1                           | —           | 447.1                | 455.6                              | (1.9)                            |
| Silica Catalysts                     | 23.3                                    | —          | 23.3                 | 22.0                                       | 5.9                              | 85.7                            | 1.3         | 87.0                 | 72.1                               | 20.7                             |
| Performance Materials                | 67.9                                    | 1.1        | 69.0                 | 73.7                                       | (6.4)                            | 363.0                           | 9.6         | 372.6                | 378.3                              | (1.5)                            |
| Performance Chemicals                | 158.9                                   | 1.4        | 160.3                | 168.8                                      | (5.1)                            | 685.1                           | 18.7        | 703.8                | 717.3                              | (1.9)                            |
| Eliminations                         | (3.4)                                   | (0.1)      | (3.5)                | (3.8)                                      | (7.9)                            | (13.8)                          | (0.4)       | (14.2)               | (15.1)                             | (6.0)                            |
| <b>Total sales</b>                   | <b>352.4</b>                            | <b>2.4</b> | <b>354.8</b>         | <b>380.1</b>                               | <b>(6.6)</b>                     | <b>1,567.1</b>                  | <b>29.2</b> | <b>1,596.3</b>       | <b>1,608.2</b>                     | <b>(0.7)</b>                     |
| Zeolyst joint venture sales          | 47.3                                    | —          | 47.3                 | 36.5                                       | 29.6                             | 170.3                           | —           | 170.3                | 156.7                              | 8.7                              |
| <b>Adjusted EBITDA:</b>              | \$                                      | \$         | \$                   | \$   | %                                | \$                              | \$          | \$                   | \$                                 | %                                |
| Refining Services                    | 41.9                                    | —          | 41.9                 | 50.1                                       | (16.4)                           | 175.6                           | —           | 175.6                | 176.5                              | (0.5)                            |
| Catalysts                            | 28.5                                    | —          | 28.5                 | 18.9                                       | 50.8                             | 107.8                           | 0.9         | 108.7                | 81.1                               | 34.0                             |
| Performance Materials                | 11.2                                    | 0.2        | 11.4                 | 10.5                                       | 8.6                              | 76.7                            | 1.3         | 78.0                 | 72.5                               | 7.6                              |
| Performance Chemicals                | 33.6                                    | 0.4        | 34.0                 | 39.2                                       | (13.3)                           | 154.3                           | 4.9         | 159.2                | 170.9                              | (6.8)                            |
| <b>Total Segment Adjusted EBITDA</b> | <b>115.2</b>                            | <b>0.6</b> | <b>115.8</b>         | <b>118.7</b>                               | <b>(2.4)</b>                     | <b>514.4</b>                    | <b>7.1</b>  | <b>521.5</b>         | <b>501.0</b>                       | <b>4.1</b>                       |
| Corporate                            | (12.1)                                  | —          | (12.1)               | (9.6)                                      | 26.0                             | (40.1)                          | (0.1)       | (40.2)               | (37.0)                             | 8.6                              |
| <b>Total Adjusted EBITDA</b>         | <b>103.1</b>                            | <b>0.6</b> | <b>103.7</b>         | <b>109.1</b>                               | <b>(4.9)</b>                     | <b>474.3</b>                    | <b>7.0</b>  | <b>481.3</b>         | <b>464.0</b>                       | <b>3.7</b>                       |

