

## Reconciliation of Non-GAAP Financial Measures

(in millions)	Three months ended September 30,		Historical	Pro Forma
	2017	2016	Nine months ended September 30, 2017	September 30, 2016
Reconciliation of net loss to Adjusted EBITDA				
Net loss attributable to PQ Group Holdings Inc. and Subsidiaries	\$ (3.4)	\$ (10.0)	\$ (7.4)	\$ (57.4)
Benefit for income taxes	5.2	(3.5)	5.3	42.3
Interest expense, net	49.1	48.6	144.0	142.6
Depreciation and amortization	45.9	43.6	129.1	123.2
<b>EBITDA</b>	<b>96.8</b>	<b>78.7</b>	<b>271.0</b>	<b>250.7</b>
Joint venture depreciation, amortization and interest (a)	2.6	2.7	8.1	7.9
Amortization of investment in affiliate step-up(b)	1.7	12.3	6.9	15.3
Amortization of inventory step-up(c)	-	5.8	0.9	5.8
Debt extinguishment costs	0.5	-	0.5	-
Net loss on asset disposals (d)	3.5	0.6	6.4	2.9
Foreign currency exchange gain (loss) (e)	5.3	3.2	21.6	1.0
Non-cash revaluation of inventory, including LIFO	0.8	0.3	3.2	0.8
Management advisory fees (f)	1.3	1.3	3.8	4.0
Transaction related costs (g)	1.0	1.7	5.3	5.3
Equity-based and other non-cash compensation	1.0	1.1	3.9	4.4
Restructuring, integration and business optimization expense (h)	5.0	2.8	8.0	16.2
Defined benefit plan pension cost(i)	0.8	1.2	2.2	4.0
Other (j)	(0.4)	1.9	2.1	3.2
<b>Adjusted EBITDA <sup>1</sup></b>	<b>\$ 119.9</b>	<b>\$ 113.6</b>	<b>\$ 343.9</b>	<b>\$ 321.5</b>
EBITDA Adjustments By Line Item				
EBITDA	\$ 96.8	\$ 78.7	\$ 271.0	\$ 250.7
Cost of goods sold	2.2	7.4	6.8	8.8
Selling, general and administrative expenses	1.9	2.0	5.8	9.0
Other operating expense, net	9.1	6.4	22.8	28.1
Equity in net (income) loss from affiliated companies	1.7	12.3	6.9	15.3
Other expense, net	5.6	4.1	22.5	1.7
Joint venture depreciation, amortization and interest (a)	2.6	2.7	8.1	7.9
<b>Adjusted EBITDA <sup>1</sup></b>	<b>\$ 119.9</b>	<b>\$ 113.6</b>	<b>\$ 343.9</b>	<b>\$ 321.5</b>

(1) For purposes of calculations under the covenants included in our credit agreements, Adjusted EBITDA also includes adjustments for expected cost savings and synergies initiatives associated with acquisitions and restructurings, which for the nine months ended September 30, 2017 included (i) \$7.3 million related to the Sovitec acquisition, and (ii) \$13.5 million of cost savings associated with completed projects that are expected to be realized over the next 18 months.

## Reconciliation of Non-GAAP Financial Measures

- a) We use Adjusted EBITDA, adjusted net income, and adjusted diluted EPS, as a performance measure to evaluate our financial results. Because our environmental catalysts and services segment includes our 50% interest in our Zeolyst Joint Venture, we include an adjustment for our 50% proportionate share of depreciation, amortization and interest expense of our Zeolyst Joint Venture.
- b) Represents the amortization of the fair value adjustments associated with the equity affiliate investment in our Zeolyst Joint Venture as a result of 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 our Zeolyst Joint Venture. Amortization is primarily related to the fair value adjustments associated with inventory, fixed assets and intangible assets, such as customer relationships, formulations and product technology.
- c) As a result of the Business Combination, there was a step-up in the fair value of inventory at PQ Holdings, which is amortized through cost of goods sold in the income statement.
- d) We do not have a history of significant asset disposals. However, 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.
- e) Reflects the exclusion of the negative or positive transaction gains and losses of foreign currency in the income statement primarily related to the Euro denominated term loan and the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.
- f) Reflects consulting fees paid to CCMP and affiliates of INEOS for consulting services that include certain financial advisory and management services. These payments ceased as of the effective date of our initial public offering.
- g) Relates to certain transaction costs described in our condensed consolidated financial statements for the quarter and year to date period ended September 30, 2017 as well as other costs related to several transactions that are completed, pending or abandoned and that we believe are not representative of our ongoing business operations.
- h) Includes the impact of restructuring, integration and business optimization expenses that are related to specific, one-time items, including severance for a reduction in force and post-merger integration costs that are not expected to recur.
- i) Represents adjustments for defined benefit pension plan costs in our income statement. 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.
- j) Other costs consist of certain expenses that are not core to our ongoing business operations and are generally related to specific, one-time items, 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.