

# Fourth Quarter 2023

February 28, 2024 —11 a.m. ET

YOUR CATALYST FOR POSITIVE CHANGE™

# Legal Discussion

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## Continuing Operations

Financial results are presented on a continuing operations basis, which excludes the Performance Materials business and Performance Chemicals business unless otherwise indicated.

## 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, our future results of operations, financial condition, liquidity, prospects, growth, strategies, capital allocation programs (including our share repurchase program), product and service offerings, expected end use demand trends and financial 2024 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, including tariffs and trade disputes, currency exchange rates, effects of inflation, and other factors, including those described in the sections titled “Risk Factors” and “Management’s 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, adjusted free cash flow, net debt leverage ratio, and cash conversion, 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 reliance upon the unreasonable efforts exemption provided under Item 10(e)(1)(i)(B) of Regulation S-K, 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 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. Because this information is uncertain, the Company is unable to address the probable significance of the unavailable information, which could be material to future results.

# Legal Discussion

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## Supply Share and Industry Information

Certain statistical information used in this presentation is based on independent industry publications, reports by research firms or other published independent sources. Some statistical information is also based on our good faith estimates which are derived from management's knowledge of our industry and such independent sources referred to above. Certain supply share statistics, ranking and industry information included in this presentation, including the size of certain markets and our estimated supply share position and the supply share positions of our competitors, are based on management estimates. These estimates have been derived from our management's knowledge and experience in the industry and end uses into which we sell our products, as well as information obtained from surveys, reports by research firms, our customers, distributors, suppliers trade and business organizations and other contacts in the industries into which we sell our products. We believe these data to be accurate as of the date of this presentation. However, this information may prove to be inaccurate because this information cannot always be verified with complete certainty due to the limitations on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties. Unless otherwise noted, all of our supply share position and industry information presented in this presentation herein is an approximation based on management's knowledge and is based on our, or, in the case supply share position information excludes volume attributable to manufacturers who produce primarily for their own consumption. In addition, references to various end uses into which we sell our products are based on how we define the end uses for our products.

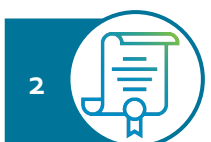
## Zeolyst Joint Venture

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.

# Key Messages



1 Stable demand fundamentals across the majority of end uses for both Ecoservices and Advanced Materials & Catalysts



2 Q4 2023 sales volume for regeneration services and virgin sulfuric acid up, with lower pricing associated with cost pass-through and softer macroeconomic conditions



3 Favorable pricing dynamics contributed to 37% increase in Advanced Silicas Q4 2023 sales, ZI Joint Venture sales up 32% on higher hydrocracking sales



4 Continued to position Ecovyst for growth in emerging technologies - achieved first sale of Advanced Silicas for bio-catalysis application



5 Positive cash generation provided for reduction in net debt leverage ratio<sup>1,2</sup> to 3.0x at year end

1. See Appendix for Reconciliations of non-GAAP measures

2. Net Debt Leverage Ratio = (Total debt – Cash and cash equivalents) / Adjusted EBITDA



# Key Highlights

## Q4 2023 Key Highlights

**\$173 Mln**

GAAP Sales  
Q4 2023

**\$69.8 Mln**

Adj. EBITDA  
Q4 2023<sup>1</sup>

**31%**

Adjusted EBITDA Margin  
Q4 2023<sup>2,3</sup>

**3.0X**

Net Debt Leverage  
Ratio<sup>1,4</sup>

**75%**

Cash  
Conversion<sup>1,3</sup>

**\$152 Mln**

Liquidity<sup>6</sup>



1. See Appendix for Reconciliations of non-GAAP measures

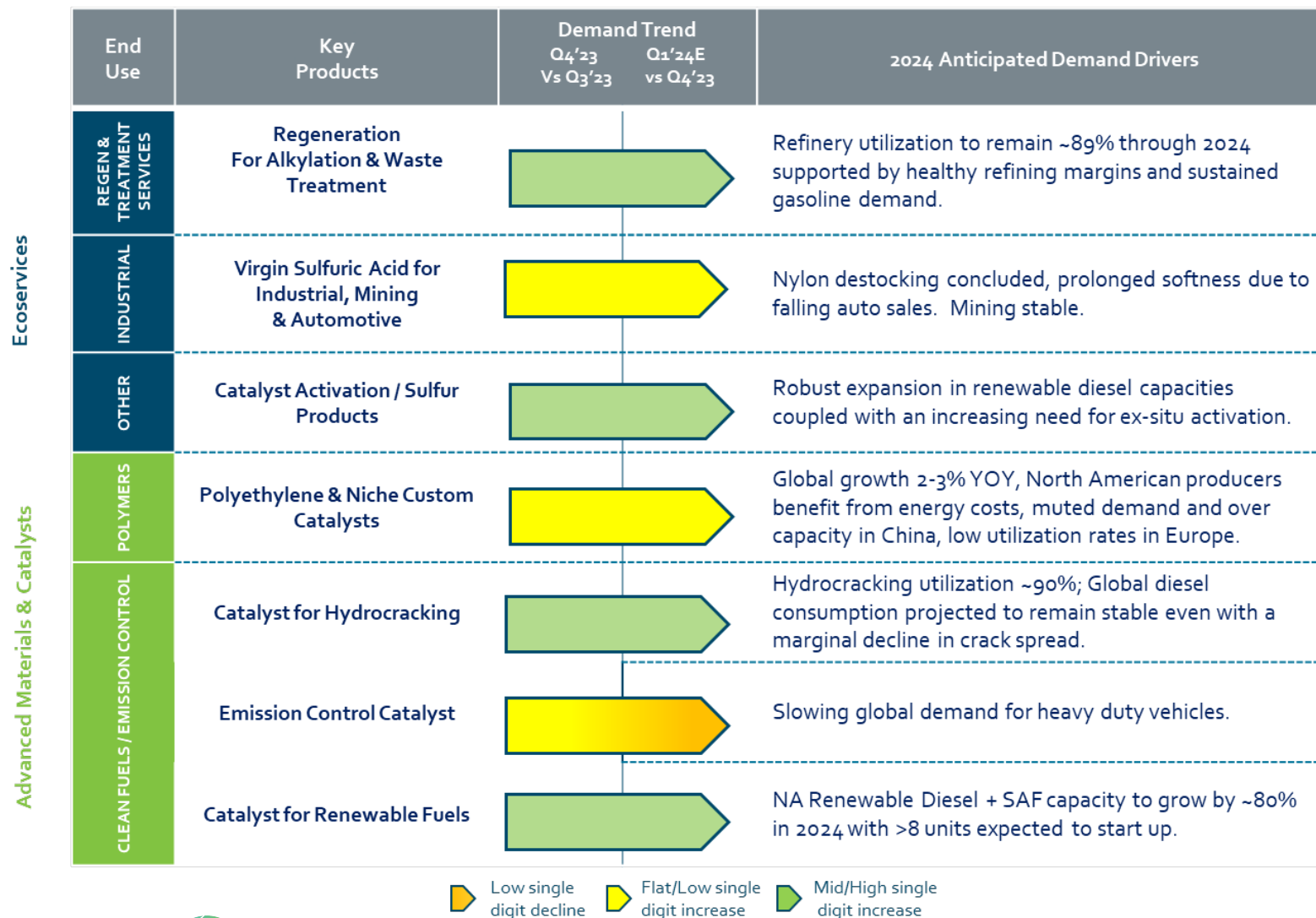
2. Adjusted EBITDA margin calculation includes proportionate 50% share of sales from the Zeolyst Joint Venture of \$52.8 million

3. Cash Conversion = (Adjusted EBITDA – Capex)/Adjusted EBITDA

4. Net Debt Leverage Ratio = (Total debt – Cash and cash equivalents) / Adjusted EBITDA

5. Liquidity = \$88 million of Cash and Cash equivalents + Availability on revolving ABL facility of \$64 million

# Demand Trends and Drivers



## Fourth Quarter 2023 Financial Performance

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# Financial Performance - Fourth Quarter and Full Year 2023

## Fourth Quarter Financial Results

(\$ in millions)	Fourth Quarter 2023	Fourth Quarter 2022	\$ Change	% Change
Ecovyst Sales	172.8	182.8	(10.0)	(5.5)
Zeolyst JV Sales	52.8	39.9	12.9	32.3
Net Income	30.0	21.5	8.5	39.5
Net Income Margin (%)	17.4	11.8		560 bps
Adjusted EBITDA <sup>1</sup>	69.8	69.2	0.6	0.9
Adjusted EBITDA Margin <sup>1,2</sup> (%)	30.9	31.1		(20 bps)

(\$ in millions)	\$ Change	% Change
Sales Change Factors <sup>3</sup>	(10.0)	(5.5)
Volume	10.0	5.5
Price (ex sulfur pass-through)	(11.6)	(6.3)
Price impact of sulfur pass-through	(9.0)	(4.9)
Currency	0.6	0.3

## Full Year Financial Results

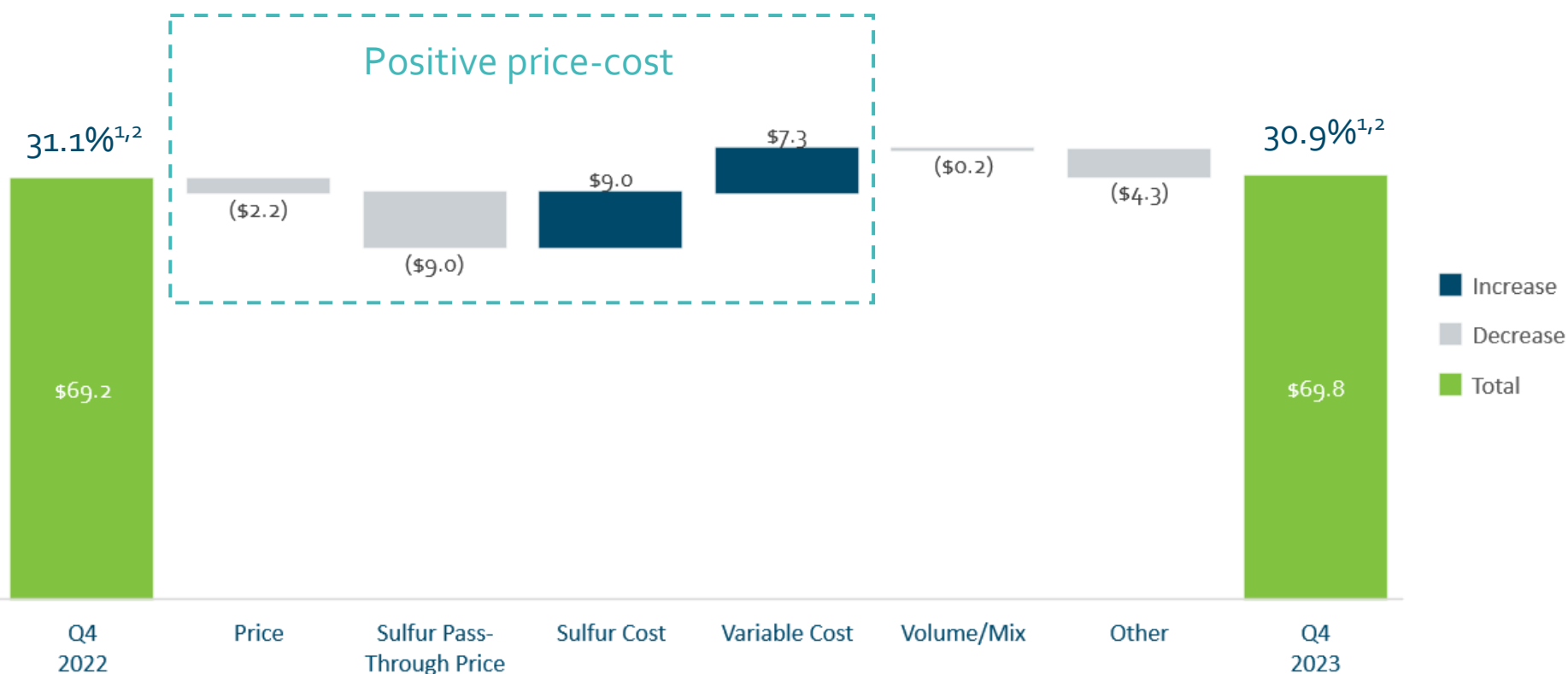
(\$ in millions)	Years Ended December 31,		\$ Change	% Change
	2023	2022		
Ecovyst Sales	691.1	820.2	(129.1)	(15.7)
Zeolyst JV Sales	156.5	132.6	23.9	18.0
Net Income	71.2	69.8	1.4	2.0
Net Income Margin (%)	10.3	9.0		130 bps
Adjusted EBITDA <sup>1</sup>	259.9	276.8	(16.9)	(6.1)
Adjusted EBITDA Margin <sup>1,2</sup> (%)	30.7	29.0		170 bps

(\$ in millions)	\$ Change	% Change
Sales Change Factors <sup>3</sup>	(129.0)	(15.7)
Volume	(76.2)	(9.3)
Price (ex sulfur pass-through)	32.8	4.0
Price impact of sulfur pass-through	(86.0)	(10.5)
Currency	0.4	0.1

# Adjusted EBITDA Bridge - Q4 2023



- Continued positive price-to-cost benefit across the portfolio
- Favorable base pricing from implemented price increases
  - Lower variable costs passed through in price



## Ecoservices - Q4 2023 Financial Performance

(\$ in millions)	Fourth Quarter 2023	Fourth Quarter 2022	\$ Change	% Change
Ecoservices Sales	141.4	159.8	(18.4)	(11.5)
Adjusted EBITDA <sup>1</sup>	48.4	54.4	(6.0)	(11.0)
Adjusted EBITDA Margin <sup>1</sup> (%)	34.2	34.0		20 bps

### Ecoservices Highlights

- Fourth quarter sales reflect pass-through of lower sulfur costs of approximately \$9 million and lower pricing in regeneration services associated with the pass-through of lower natural gas and freight costs
- Adjusted EBITDA decrease reflects lower net pricing associated with lower raw material pass-through pricing, partially offset by higher sales volume for both regeneration services and virgin sulfuric acid
- Adjusted EBITDA margin of 34.2%, up 20 basis points



# Advanced Materials & Catalysts - Q4 2023 Financial Performance

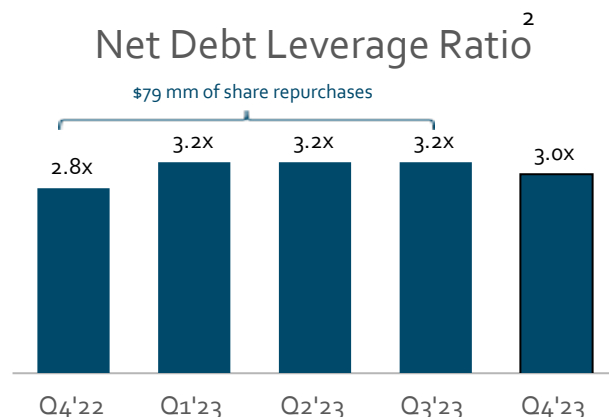
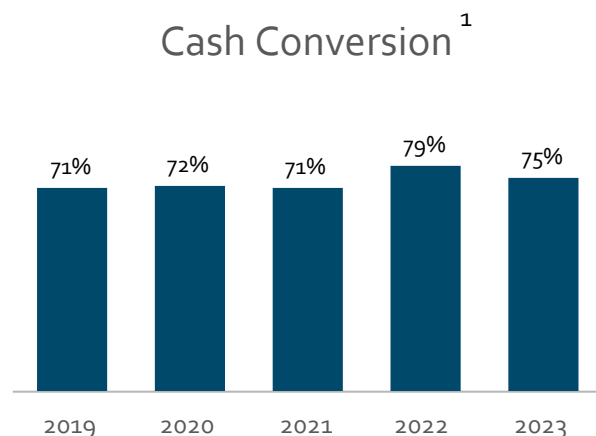
(\$ in millions)	Fourth Quarter 2023	Fourth Quarter 2022	\$ Change	% Change
Advanced Silicas Sales	31.4	23.0	8.4	36.5
Zeolyst JV Sales	52.8	39.9	12.9	32.3
Adjusted EBITDA <sup>1</sup>	27.2	20.3	6.9	34.0
Adjusted EBITDA Margin <sup>1,2</sup> (%)	32.3	32.3		0 bps

## Advanced Materials & Catalysts Highlights

- Advanced Silicas sales increased on higher average selling prices and higher sales volume for niche custom catalysts
  - Polyethylene catalyst sales increased with higher pricing offsetting impact of lower sales volume
- Zeolyst JV sales increased primarily due to higher sales of hydrocracking catalysts
- Adjusted EBITDA increased on higher average selling prices in both Advanced Silicas and the ZI Joint Venture and higher sales volume in the ZI Joint Venture, partially offset by lower sales volume for Advanced Silicas

# Cash & Leverage

## Cash Conversion Provides for Capital Allocation Flexibility and Improving Leverage Profile



### Cash Generation

- Continued strong cash flow generation
- Lower Adjusted EBITDA in 2023 with a moderate increase in capital spending

### Share repurchase authorization

- Originally \$450 million/4 years
- Returned capital to shareholders via \$137 million of share repurchases in 2022 and \$79 million in 2023
- Approximately \$235 million remaining under authorization

### Leverage Ratio and Debt Profile

- Strong cash generation capability has provided for historic reduction in leverage, limited by recent share repurchases
- No significant debt maturities until 2028
- No maintenance covenants on leverage
- Interest rate caps limit rate exposure

1. Cash Conversion = (Adjusted EBITDA – Capex)/Adjusted EBITDA. See Appendix for Reconciliations of non-GAAP measures

2. Net Debt Leverage Ratio = (Total debt – Cash and cash equivalents) / Adjusted EBITDA. See Appendix for Reconciliations of non-GAAP measures

# Ecovyst 2024 Outlook

Ecovyst		
(\$ in millions, except per share)	2023 Actual	2024 Outlook
Sales <sup>1</sup>	\$691	\$715 - \$755
Zeolyst JV Sales	\$157	\$145 - \$165
Adjusted EBITDA <sup>2</sup>	\$260	\$255 - \$275
Adjusted Free Cash Flow <sup>2</sup>	\$72	\$85 - \$105
Capital Expenditures	\$65	\$70 - \$80
Interest Expense	\$45	\$45 - \$55
Depreciation & Amortization		
Ecovyst	\$85	\$85 - \$95
Zeolyst JV	\$13	\$12 - \$14

Adjusted EBITDA Growth of 2%  
in 2024 from 2023  
Assuming midpoint of guidance

- Relative to 2023, the pass-through effect of changes in sulfur costs on 2024 Sales is expected to be largely immaterial

# Summary

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- |   |   |  |
|---|---|--|
| 1 | Maintaining conservative outlook given uncertain macroeconomic environment and limited visibility into customer demand in second half of year |  |
| 2 | Expect modest demand recovery for virgin sulfuric acid sales into production of nylon intermediates and for sales of polyethylene catalysts   |  |
| 3 | Anticipate stable demand for regeneration services, continued growth in catalysts and catalyst activation supporting sustainable fuels        |  |
| 4 | Expect positive cash generation to provide for further reduction in net debt leverage in 2024 toward target leverage ratio of 2.0 - 2.5x      |  |

A close-up photograph of laboratory glassware. In the center, a graduated cylinder is tilted, containing a bright yellow liquid. The cylinder has black markings with numbers 17, 18, and 19. To the left, a large Erlenmeyer flask is partially visible, also containing the yellow liquid. On the right, a test tube is shown, containing a green liquid. The background is a soft, out-of-focus light blue.

# APPENDIX

# Annual Segment Sales, Adjusted EBITDA and Margins

(\$ in millions, except %)	Year Ended December 31,				
	2023	2022	2021	2020	2019
<b>Sales:</b>					
Ecoservices	584.8	702.5	500.5	401.9	447.1
Advanced Silicas	106.3	117.7	110.7	94.0	85.7
<b>Total sales</b>	<b>691.1</b>	<b>820.2</b>	<b>611.2</b>	<b>495.9</b>	<b>532.8</b>
Zeolyst Joint Venture sales	156.5	132.6	131.3	128.6	170.3
<b>Adjusted EBITDA<sup>1</sup>:</b>					
Ecoservices	200.0	227.8	177.7	157.2	175.6
Advanced Materials & Catalysts	81.9	78.0	88.0	74.5	107.8
Unallocated corporate expenses	(22.0)	(29.0)	(38.1)	(39.1)	(43.3)
<b>Total Adjusted EBITDA</b>	<b>259.9</b>	<b>276.8</b>	<b>227.6</b>	<b>192.6</b>	<b>240.1</b>
<b>Adjusted EBITDA Margin<sup>1</sup>:</b>					
Ecoservices	34.2%	32.4%	35.5%	39.1%	39.3%
Advanced Materials & Catalysts	31.2%	31.2%	36.4%	33.5%	42.1%
<b>Total Adjusted EBITDA Margin<sup>1,2</sup></b>	<b>30.7%</b>	<b>29.0%</b>	<b>30.7%</b>	<b>30.8%</b>	<b>34.1%</b>

1. See Appendix for Reconciliations of non-GAAP measures

2. Totals include corporate costs

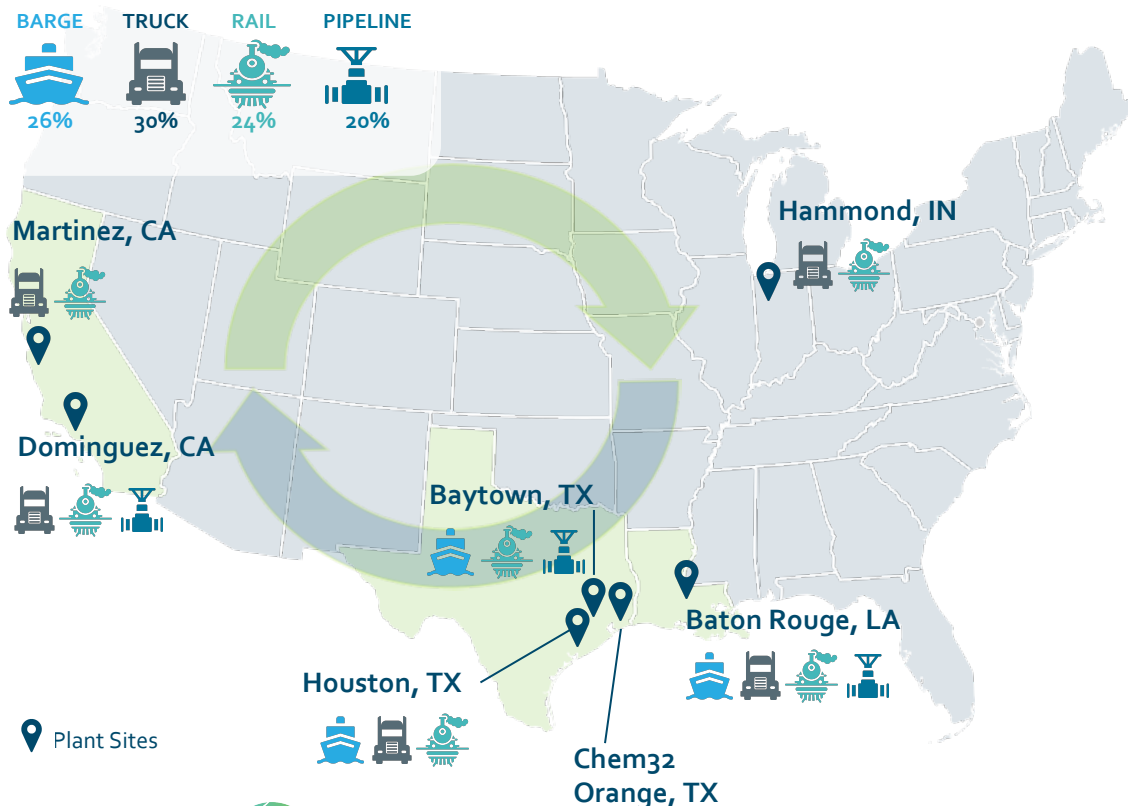
\* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)



# Ecoservices: North American Leader in Sulfuric Acid Recycling and Related Services with Key Competitive Position in Gulf Coast and California

## ANTICIPATED FUTURE GROWTH FACTORS

- Existing customer re-contracting, and favorable alkylate fundamentals expected to drive growth for regeneration services
- Rising virgin acid consumption for electrification and green infrastructure enabling materials mining
- Increasing demand for sustainable waste solutions from industrials benefitting Treatment Services
- Accelerating off site Catalyst Activation demand from renewable fuels producers and traditional refineries



### UNRIVALED SUPPLY INFRASTRUCTURE

- Managing end to end supply chain & customer inventories
- Production redundancy in key refining locations enables the highest degree of reliability

### FAVORABLE CUSTOMER POSITIONS

- Long-term contracts with cost pass-through
- Typically, 100% of supply for customer sites
- Take-or-pay and capacity reservation fees

# Advanced Materials & Catalysts: Global Leader in Tailored Catalyst Solutions

## ANTICIPATED FUTURE GROWTH FACTORS

- Preferred technology and increasing product offerings for strengthening & light weighting of materials projected to drive growth in polyethylene catalysts
- Growing demand for renewable fuels
- Increasing regulation driving reduction in vehicle emissions
- New product launches supporting the ongoing product development and collaboration with customers, including plastic recycling



### FLEXIBLE MANUFACTURING NETWORK

- Improved manufacturing network efficiencies
- Continued debottlenecking production capacity for sold out product lines

### FAVORABLE CUSTOMER POSITIONS

- Believe growing faster than market with existing polyethylene customers
- Strong growth in custom catalysts; diversified across multiple chemical processes
- Collaborating on multiple product development projects for new offerings in renewable fuels and materials and recycling of polymers

# Quarterly Segment Sales, Adjusted EBITDA and Margins

	Three Months Ended				Year Ended	Three Months Ended				Year Ended
(\$ in millions, except %)	March 31, 2023	June 30, 2023	September 30, 2023	December 31, 2023	December 31, 2023	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022	December 31, 2022
<b>Sales:</b>										
Ecoservices	137.8	158.1	147.6	141.4	584.8	154.0	193.0	195.7	159.8	702.5
Advanced Silicas	23.1	26.0	25.7	31.4	106.3	25.7	32.2	36.8	23.0	117.7
<b>Total sales</b>	<b>160.9</b>	<b>184.1</b>	<b>173.3</b>	<b>172.8</b>	<b>691.1</b>	<b>179.7</b>	<b>225.2</b>	<b>232.5</b>	<b>182.8</b>	<b>820.2</b>
Zeolyst Joint Venture sales	22.1	44.7	37.0	52.8	156.5	29.0	35.9	27.8	39.9	132.6
<b>Adjusted EBITDA: <sup>1</sup></b>										
Ecoservices	36.8	60.1	54.7	48.4	200.0	49.3	60.0	64.1	54.4	227.8
Advanced Materials & Catalysts	13.0	25.4	16.4	27.2	81.9	17.0	21.4	19.3	20.3	78.0
Unallocated corporate expenses	(6.9)	(6.2)	(3.2)	(5.8)	(22.0)	(7.1)	(8.5)	(8.0)	(5.5)	(29.0)
<b>Total Adjusted EBITDA</b>	<b>42.9</b>	<b>79.3</b>	<b>67.9</b>	<b>69.8</b>	<b>259.9</b>	<b>59.2</b>	<b>72.9</b>	<b>75.4</b>	<b>69.2</b>	<b>276.8</b>
<b>Adjusted EBITDA Margin<sup>1,2</sup>:</b>										
Ecoservices	26.7%	38.0%	37.1%	34.2%	34.2%	32.0%	31.1%	32.8%	34.0%	32.4%
Advanced Materials & Catalysts	28.8%	35.9%	26.2%	32.3%	31.2%	31.1%	31.4%	29.9%	32.3%	31.2%
<b>Total Adjusted EBITDA Margin<sup>1,2</sup></b>	<b>23.4%</b>	<b>34.7%</b>	<b>32.3%</b>	<b>30.9%</b>	<b>30.7%</b>	<b>28.4%</b>	<b>27.9%</b>	<b>29.0%</b>	<b>31.1%</b>	<b>29.0%</b>

1. See Appendix for Reconciliations of non-GAAP measures

2. Totals include corporate costs

\* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

# Sales and Adjusted EBITDA Major Change Factors

## Sales

Sales (in \$ millions and %)	Three Months Ended December 31, 2023						Year Ended December 31, 2023					
	Ecovyst		Ecoservices		Advanced Silicas		Ecovyst		Ecoservices		Advanced Silicas	
Sales:	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Volume	10.0	5.5	8.2	5.1	1.8	7.8	(76.2)	(9.3)	(52.1)	(7.4)	(24.2)	(20.6)
Price/Mix	(20.6)	(11.3)	(26.5)	(16.6)	6.0	26.1	(53.2)	(6.4)	(65.6)	(9.3)	12.4	10.5
Currency	0.6	0.3	—	—	0.6	2.6	0.4	—	—	—	0.4	0.4
<b>Sales Change</b>	<b>(10.0)</b>	<b>(5.5)</b>	<b>(18.3)</b>	<b>(11.5)</b>	<b>8.4</b>	<b>36.5</b>	<b>(129.0)</b>	<b>(15.7)</b>	<b>(117.7)</b>	<b>(16.7)</b>	<b>(11.4)</b>	<b>(9.7)</b>

## Adjusted EBITDA

Adj. EBITDA (in \$ millions and %)	Three Months Ended December 31, 2023						Year Ended December 31, 2023					
	Ecovyst		Ecoservices		Advanced Materials & Catalysts		Ecovyst		Ecoservices		Advanced Materials & Catalysts	
Adj EBITDA:	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%
Volume/Mix	(0.2)	(0.3)	4.6	8.5	(4.8)	(23.6)	(34.2)	(12.4)	(20.5)	(9.0)	(13.7)	(17.6)
Price <sup>1</sup>	(2.2)	(3.2)	(17.5)	(32.2)	15.4	75.9	43.6	15.8	20.4	9.0	23.2	29.7
Variable Cost <sup>1</sup>	7.3	10.5	7.5	13.8	(0.2)	(1.0)	(16.5)	(6.0)	(14.4)	(6.3)	(2.1)	(2.7)
Currency	0.4	0.6	—	—	0.4	2.0	0.4	0.1	—	—	0.4	0.5
Other <sup>2</sup>	(4.7)	(6.7)	(0.6)	(1.1)	(3.9)	(19.3)	(10.2)	(3.6)	(13.3)	(5.8)	(4.2)	(5.4)
<b>Adj EBITDA Change</b>	<b>0.6</b>	<b>0.9</b>	<b>(6.0)</b>	<b>(11.0)</b>	<b>6.9</b>	<b>34.0</b>	<b>(16.9)</b>	<b>(6.1)</b>	<b>(27.8)</b>	<b>(12.1)</b>	<b>3.6</b>	<b>4.5</b>

1. Excludes the sulfur cost pass-through impact reflected in price and the associated sulfur cost reflected in variable cost; \$9 and \$86 for the three and twelve months ended December 31, 2023, respectively

2. Includes the impact of corporate related cost \$(0.3) and \$7.0 for the three and twelve months ended December 31, 2023, respectively

# Reconciliation of Net Income to Adjusted EBITDA

(\$ in millions)	Years Ended				
	December 31, 2023	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019
<b>Reconciliation of net income to Adjusted EBITDA</b>					
Net income	71.2	69.8	1.8	54.3	31.1
Provision (benefit) for income taxes	10.8	24.9	12.1	(52.1)	12.3
Interest expense, net	44.7	37.2	37.0	50.4	66.9
Depreciation and amortization	84.6	79.2	79.7	76.9	74.8
<b>EBITDA</b>	<b>211.3</b>	<b>211.1</b>	<b>130.6</b>	<b>129.5</b>	<b>185.1</b>
Joint venture depreciation, amortization and interest <sup>(a)</sup>	13.4	16.0	15.6	14.7	14.7
Amortization of investment in affiliate step-up <sup>(b)</sup>	6.4	6.4	6.5	6.6	7.5
Debt extinguishment costs	—	—	26.9	25.0	3.4
Net loss on asset disposals <sup>(c)</sup>	4.1	3.6	5.7	4.7	4.6
Foreign currency exchange (gain) loss <sup>(d)</sup>	(1.3)	1.4	4.7	(5.3)	1.2
LIFO expense (benefit) <sup>(e)</sup>	3.5	(0.2)	(1.9)	(5.3)	6.5
Transaction and other related costs <sup>(f)</sup>	3.0	7.0	2.0	1.1	0.2
Equity-based compensation	16.0	20.6	31.8	17.2	13.3
Restructuring, integration and business optimization expenses <sup>(g)</sup>	2.7	11.6	3.0	2.0	2.6
Other <sup>(h)</sup>	0.8	(0.7)	2.7	2.4	1.0
<b>Adjusted EBITDA<sup>1</sup></b>	<b>259.9</b>	<b>276.8</b>	<b>227.6</b>	<b>192.6</b>	<b>240.1</b>

# Reconciliation of Net Income to Adjusted EBITDA

(\$ in millions)	Three Months Ended				Year Ended		Three Months Ended				Year Ended
	March 31, 2023	June 30, 2023	September 30, 2023	December 31, 2023	December 31, 2023	March 31, 2022	June 30, 2022	September 30, 2022	December 31, 2022	December 31, 2022	December 31, 2022
<b>Reconciliation of net income to Adjusted EBITDA</b>											
Net (loss) income	(1.5)	26.1	16.6	30.0	71.2	7.9	19.2	21.3	21.5	69.8	
Provision (benefit) for income taxes	0.9	8.8	7.9	(6.8)	10.8	5.7	7.3	9.0	2.9	24.9	
Interest expense, net	9.9	9.2	11.8	13.9	44.7	8.5	8.9	9.5	10.3	37.2	
Depreciation and amortization	20.2	21.0	21.3	22.1	84.6	19.5	19.7	19.6	20.4	79.2	
<b>EBITDA</b>	<b>29.5</b>	<b>65.1</b>	<b>57.6</b>	<b>59.2</b>	<b>211.3</b>	<b>41.6</b>	<b>55.1</b>	<b>59.4</b>	<b>55.1</b>	<b>211.1</b>	
Joint venture depreciation, amortization and interest <sup>(d)</sup>	3.6	3.2	3.3	3.3	13.4	4.1	4.0	3.9	4.0	16.0	
Amortization of investment in affiliate step-up <sup>(b)</sup>	1.6	1.6	1.6	1.6	6.4	1.6	1.6	1.6	1.6	6.4	
Net loss on asset disposals <sup>(c)</sup>	1.2	1.1	1.0	0.8	4.1	0.1	0.6	0.5	2.4	3.6	
Foreign currency exchange (gain) loss <sup>(d)</sup>	(0.7)	(0.4)	0.8	(0.9)	(1.3)	0.6	0.5	1.0	(0.8)	1.4	
LIFO expense (benefit) <sup>(e)</sup>	1.4	1.1	—	1.0	3.5	0.2	0.2	(0.4)	(0.2)	(0.2)	
Transaction and other related costs <sup>(f)</sup>	1.4	1.2	0.2	0.2	3.0	4.3	0.8	1.8	0.1	7.0	
Equity-based compensation	4.1	5.0	3.5	3.4	16.0	7.3	5.4	4.7	3.2	20.6	
Restructuring, integration and business optimization expenses <sup>(g)</sup>	1.0	1.1	0.3	0.3	2.7	0.4	5.3	1.3	5.2	11.6	
Other <sup>(h)</sup>	(0.2)	0.3	(0.4)	0.9	0.8	(1.0)	(0.6)	1.6	(1.4)	(0.7)	
<b>Adjusted EBITDA<sup>1</sup></b>	<b>42.9</b>	<b>79.3</b>	<b>67.9</b>	<b>69.8</b>	<b>259.9</b>	<b>59.2</b>	<b>72.9</b>	<b>75.4</b>	<b>69.2</b>	<b>276.8</b>	
<b>EBITDA Adjustments by Line Item</b>											
<b>EBITDA</b>	<b>29.5</b>	<b>65.1</b>	<b>57.6</b>	<b>59.2</b>	<b>211.3</b>	<b>41.6</b>	<b>55.1</b>	<b>59.4</b>	<b>55.1</b>	<b>211.1</b>	
Cost of goods sold	0.6	0.3	(0.8)	0.2	0.4	(0.6)	(0.6)	(1.2)	(0.9)	(3.3)	
Selling, general and administrative expenses	4.1	5.0	3.5	3.5	16.1	7.5	5.4	4.7	3.2	20.8	
Other operating expense, net	4.1	3.7	1.8	2.5	12.1	4.9	7.0	5.0	7.2	24.1	
Equity in net (income) from affiliated companies	1.6	1.6	1.6	1.6	6.4	1.6	1.6	1.6	1.6	6.4	
Other (income) expense, net <sup>2</sup>	(0.6)	0.4	0.9	(0.5)	0.2	0.1	0.4	2.0	(1.0)	1.7	
Joint venture depreciation, amortization and interest <sup>(a)</sup>	3.6	3.2	3.3	3.3	13.4	4.1	4.0	3.9	4.0	16.0	
<b>Adjusted EBITDA</b>	<b>42.9</b>	<b>79.3</b>	<b>67.9</b>	<b>69.8</b>	<b>259.9</b>	<b>59.2</b>	<b>72.9</b>	<b>75.4</b>	<b>69.2</b>	<b>276.8</b>	



# Descriptions for reconciliation of Non-GAAP financial measures

- (a) We use Adjusted EBITDA as a performance measure to evaluate our financial results. Because our Advanced Materials & 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. 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 intangible assets, including customer relationships and technical know-how.
- (c) 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.
- (d) Reflects the exclusion of the foreign currency transaction gains and losses in the statements of income related to the non-permanent intercompany debt denominated in local currency translated to U.S. dollars.
- (e) Represents non-cash adjustments to the Company's LIFO reserves for certain inventories in the U.S. that are valued using the LIFO method, effectively reflecting the results as if these inventories were valued using the FIFO method, which we believe provides a means of comparison to other companies that may not use the same basis of accounting for inventories.
- (f) Relates to certain transaction costs, including debt financing, due diligence and other costs related to transactions that are completed, pending or abandoned, that we believe are not representative of our ongoing business operations.
- (g) Includes the impact of restructuring, integration and business optimization expenses, which are incremental costs that are not representative of our ongoing business operations.
- (h) Other consists of adjustments for items that are not core to our ongoing business operations. These adjustments include environmental remediation and other legal costs, expenses for capital and franchise taxes, and defined benefit pension and postretirement plan (benefits) costs, for which our obligations are under plans that are frozen. Also included in this amount are adjustments to eliminate the benefit realized in cost of goods sold of the allocation of a portion of the contract manufacturing payments under the five-year agreement with the buyer of the Performance Chemicals business to the financing obligation under the failed sale-leaseback. Included in this line-item are rounding discrepancies that may arise from rounding from dollars (in thousands) to dollars (in millions).

# Adjusted Free Cash Flow

(\$ in millions)	Full Year 2022 <sup>1</sup>	Full Year 2023
Net cash provided by operating activities	186.6	137.6
Less: Purchases of property, plant and equipment <sup>2</sup>	58.9	65.3
Free Cash Flow	127.7	72.3
Plus: Cash paid for costs related to segment disposals	18.1	—
Adjusted Free Cash Flow	145.8	72.3

(\$ in millions)	Full Year 2022	Full Year 2023
Included in net cash provided by operating activities are the following supplemental cash items:		
Cash paid for taxes	25.6	22.4
Cash paid for interest <sup>3</sup>	35.4	42.1

1. Includes proportionate shares of cash generation from discontinued operations for the period presented.

2. Excludes the Company's proportionate 50% share of capital expenditures from the Zeolyst Joint Venture

3. Shown net of capitalized interest and includes the cash received or paid on interest rate cap agreements

\* Rounding discrepancies may arise when rounding results from dollars (in thousands) to dollars (in millions)

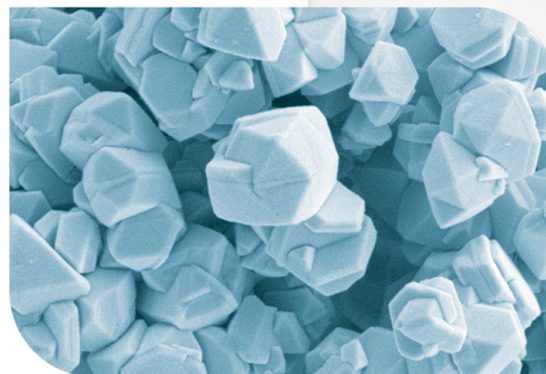
# Cash Conversion & Leverage

## Cash Conversion

(\$ in millions, except %)	2019	2020	2021	2022	2023
Adjusted EBITDA	240.1	192.6	227.6	276.8	259.9
Less: Capex <sup>1</sup>	70.3	54.5	66.4	59.5	65.3
Cash Conversion	169.9	138.1	161.2	217.5	194.6
Cash Conversion % <sup>2</sup>	71%	72%	71%	79%	75%

## Net Debt Leverage Ratio

(\$ in millions, except %)	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Total debt	886.4	884.3	882.0	879.8	877.5
Less: Cash and cash equivalents	110.9	61.6	29.2	38.3	88.4
Net debt	775.5	822.7	852.8	841.5	789.1
Net income	69.8	59.9	67.4	62.7	71.2
Adjusted EBITDA	276.8	260.5	266.8	259.3	259.9
Net Debt to Net Income Ratio	11.1x	13.7x	12.7x	13.4x	11.1x
Net Debt Leverage Ratio	2.8x	3.2x	3.2x	3.2x	3.0x



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