

Analysis of 2021 Valuation Multiples for Specialty Chemical and Commodity Chemical Transactions

Enclosed is Scott-Macon's annual update of valuation multiples for specialty chemical and commodity chemical transactions. As shown in the enclosed charts, the median multiple of total enterprise value ("TEV") to latest twelve months EBITDA ("EBITDA multiple") for specialty chemical transactions closed in 2021 was 14.4 compared to 14.3, 10.9x and 12.2 for specialty chemical transactions which closed in 2020, 2019 and 2018, respectively. The 14.4x EBITDA multiple was above the multiple of 14.3x for 2020 and above the median for the five year period 2016-2020 of 10.9x. The median multiple of TEV to latest twelve months sales ("sales multiple") for specialty chemical transactions which closed in 2021 of 2.6x was above the multiple of 1.9x for 2020 and the median for the five year period 2016-2020 of 1.9x.

The median EBITDA and sales multiples for commodity chemical transactions which closed in 2021 were 9.0x and 1.0x, respectively, compared to 9.3x and 1.0x, respectively, for commodity chemical transactions which closed in 2020 and the median EBITDA and sales multiples for the five year period 2016-2020 of 8.7x and 1.2x, respectively.

The median EBITDA multiple in 2021 was 15.3x for specialty chemical transactions closed with TEV's above \$1 billion compared to 14.2x for transactions with TEV's below \$1 billion. The median sales multiple in 2021 was 4.1x for specialty chemical transactions closed with TEV's above \$1 billion compared to 2.4x for transactions with TEV's below \$1 billion.

The total TEV of all specialty chemical transactions which closed in 2021 for which information has been disclosed and for which at least one valuation multiple can be calculated was \$22.9 billion, representing 17 transactions. This compares with the total TEV of specialty chemical transactions of \$59.7 billion representing 32 transactions and \$80.5 billion, representing 41 transactions in all of 2020 and 2019, respectively, and the median annual TEV of specialty chemical transactions for which at least one valuation multiple can be calculated which closed in the ten-year period 2011 – 2020 of \$44.5 billion and the median annual number of closed transactions in the same period of 43. The TEV of all commodity chemical transactions which closed in 2021 for which information has been disclosed and for which at least one valuation multiple can be calculated was \$14.3 billion, representing 13 transactions. Strategic buyers accounted for 88% of the number of specialty chemical transactions and for 85% of the number of commodity chemical transactions closed in 2021.

COMPARISON OF MEDIAN CHEMICAL TRANSACTION MULTIPLES 2019–2021

	Sales			EBITDA		
	2019	2020	2021	2019	2020	2021
Specialty Chemicals						
All Closed Transactions	2.4x	1.9x	2.6x	10.9x	14.3x	14.4x
Over \$1 Billion	2.4x	2.0x	4.1x	13.6x	16.1x	15.3x
Under \$1 Billion	2.4x	1.7x	2.4x	9.8x	10.6x	14.2x
Commodity Chemicals						
All Closed Transactions	0.9x	1.0x	1.0x	8.4x	9.3x	9.0x
Over \$1 Billion	1.2x	1.4x	1.5x	8.6x	8.1x	9.8x
Under \$1 Billion	0.9x	0.8x	0.7x	8.3x	10.0x	8.8x

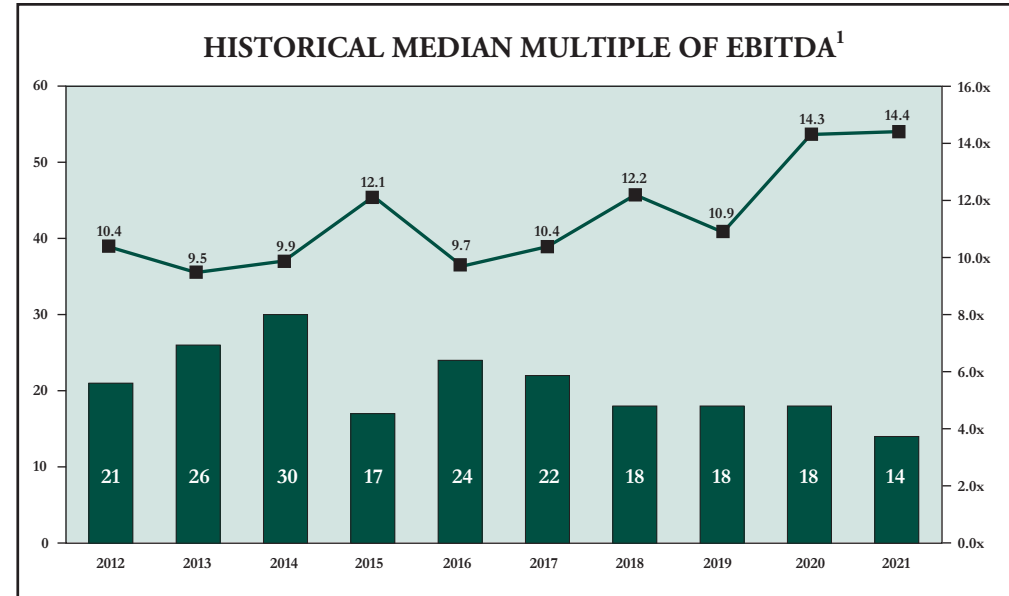
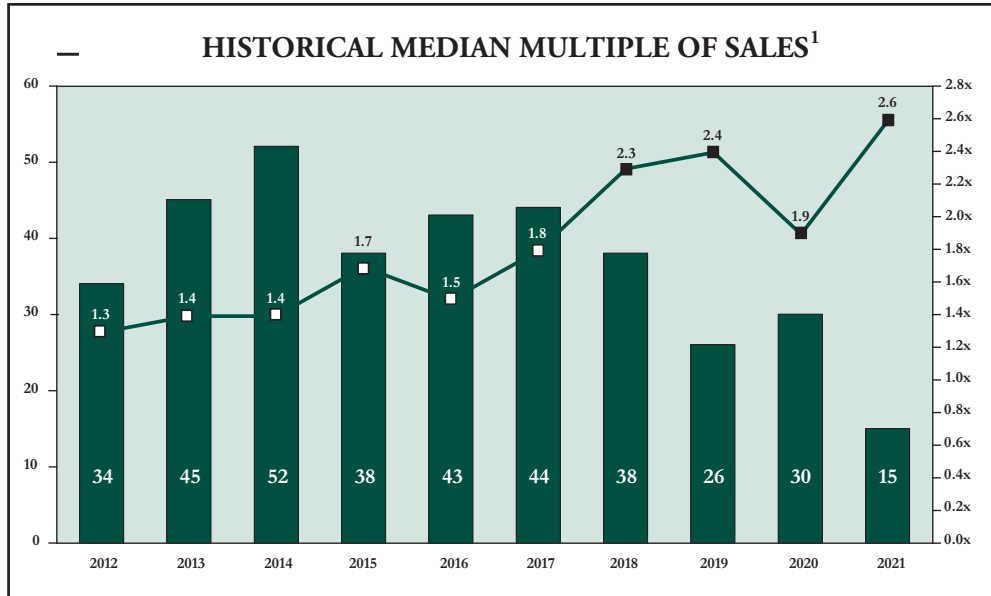
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SPECIALTY CHEMICAL TRANSACTION MULTIPLES 2012–2021



■ Number of Transactions —■ Multiple

1) Transactions for 2021 and prior years include only those that were closed during the respective year. Whole numbers in the transaction bars refer to the number of data points used in the median calculation.

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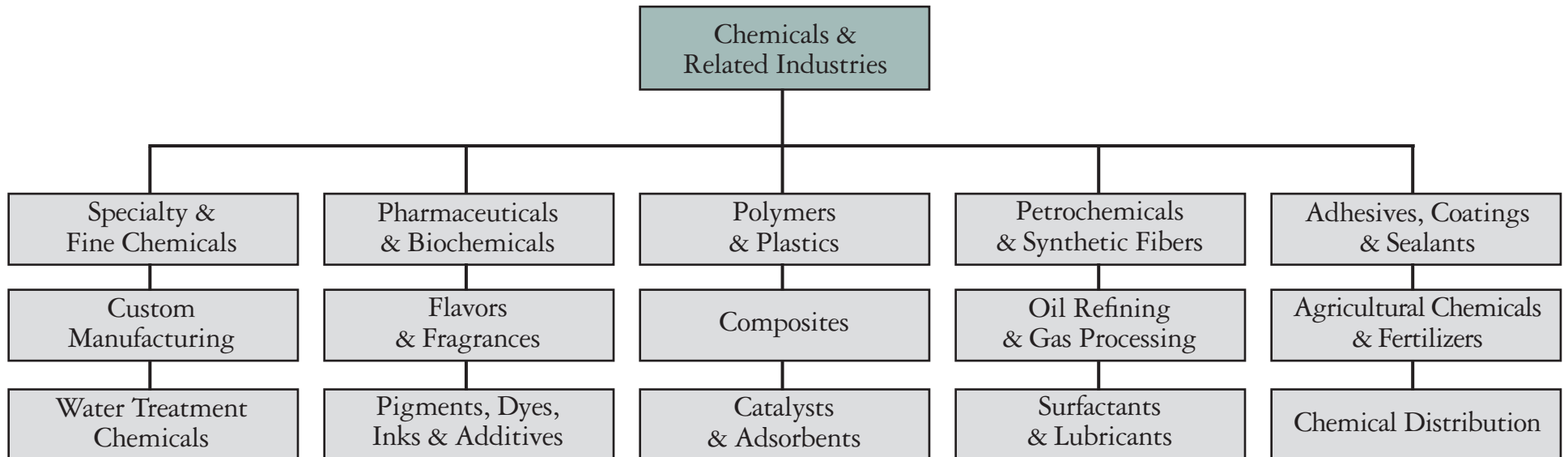
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CHEMICALS AND RELATED INDUSTRIES GROUP

- Led by Allan Benton, a specialist in chemical industry investment banking for more than 35 years
- Has led transactions and execution across a number of chemical, material and related industries
- Transaction expertise includes:
 - Mergers and acquisitions
 - Strategic advisory and valuations
 - Private equity and debt placements
- The Chemicals & Related Industries Group encompasses a number of industries as shown below:



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