

Valuation & Financial Advisory | Investment Banking | Litigation Support

Industry Update Chemicals Q3 2022

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Financial Performance Size Profile, LTM Financials, Forward Estimates

(USD in millions, except per share data)

		Size Profile				LTM Operation	ng Data	Forward Estimates	
Company Name	Ticker	Price at 09/30/22	% of 52 Week High	TEV	Total Assets	LTM Revenue	LTM EBITDA	2022 Est. Revenue	2022 Est. EBITDA
Specialty Chemicals									
The Sherwin-Williams Company	SHW	\$204.75	57.8%	\$65,760	\$22,053	\$20,780	\$3,043	\$21,888	\$3,569
Ecolab Inc.	ECL	\$144.42	60.4%	\$50,670	\$21,164	\$13,533	\$2,726	\$14,235	\$2,811
DuPont de Nemours, Inc.	DD	\$50.40	59.2%	\$38,740	\$44,44 0	\$17,128	\$4,151	\$13,144	\$3,245
PPG Industries, Inc.	PPG	\$110.69	62.4%	\$33,014	\$20,868	\$17,657	\$2,161	\$17,575	\$2,385
Celanese Corporation	CE	\$90.34	51.2%	\$13,904	\$12,713	\$9,565	\$2,529	\$9,475	\$2,732

Commodity Chemicals									
Dow Inc.	DOW	\$43.93	61.1%	\$46,040	\$59,557	\$59,407	\$10,046	\$57,173	\$9,528
LyondellBasell Industries N.V.	LYB	\$75.28	64.2%	\$39,068	\$37,024	\$53,525	\$8,736	\$52,793	\$7,481
Westlake Corporation	WLK	\$86.88	61.5%	\$16,650	\$20,372	\$15,101	\$4,911	\$16,146	\$4,591

Diversified Chemicals									
Eastman Chemical Company	EMN	\$71.05	54.9%	\$13,933	\$14,875	\$10,912	\$2,286	\$10,552	\$2,005
The Chemours Company	CC	\$24.65	54.8%	\$7,241	\$7,730	\$6,933	\$1,320	\$6,892	\$1,464
Huntsman Corporation	HUN	\$24.54	58.9%	\$6,996	\$8,721	\$9,343	\$1,376	\$8,635	\$1,358

Source: Capital IQ

Size Profile, LTM Financials, Forward Estimates

(USD in millions, except per share data)

			Size Prof	ile		LTM Operation	ng Data	Forward Estimates	
Company Name	Ticker	Price at 09/30/22	% of 52 Week High	TEV	Total Assets	LTM Revenue	LTM EBITDA	2022 Est. Revenue	2022 Est. EBITDA
Industrial Gases									
Linde plc	LIN	\$269.59	76.5%	\$156,941	\$77,885	\$32,634	\$10,552	\$33,587	\$10,734
Air Products and Chemicals, Inc.	APD	\$232.73	73.6%	\$58,421	\$27,489	\$11,970	\$3,720	\$12,617	\$4,331

Fertilizers & Agricultural Chemicals									
Nutrien Ltd.	NTR	\$83.38	71.1%	\$54,769	\$55,235	\$34,612	\$10,992	\$39,859	\$14,652
Corteva, Inc.	CTVA	\$57.15	88.9%	\$44,766	\$40,906	\$16,703	\$3,790	\$17,306	\$3,051
FMC Corporation	FMC	\$105.70	75.0%	\$18,214	\$11,044	\$5,411	\$1,384	\$5,631	\$1,401

Source: Capital IQ

Valuation Metrics

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Return Profile, Trading Multiples

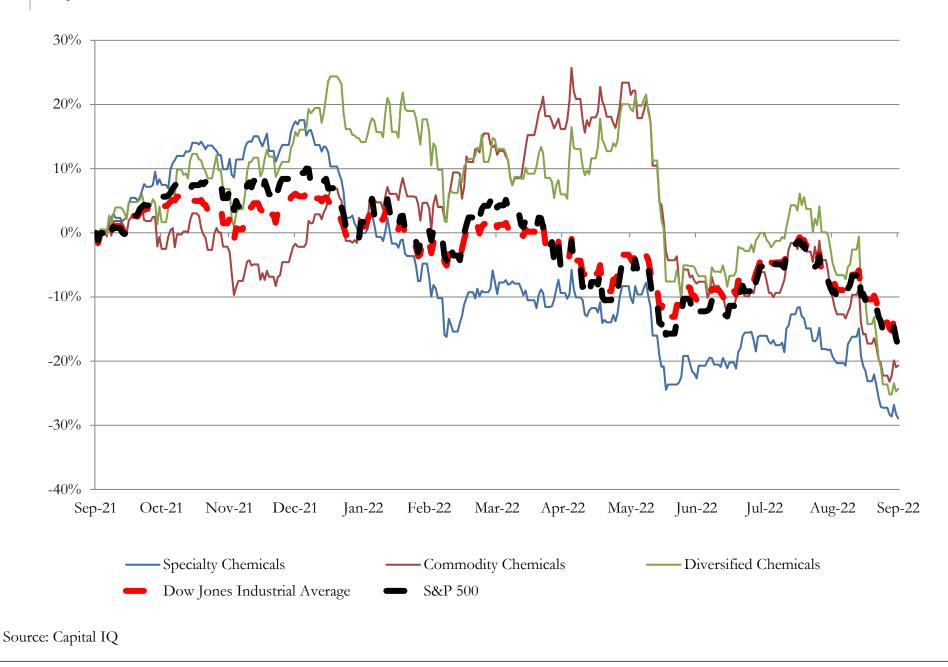
				Return	Profile			Trading 1	Multiples
Company Name	Ticker	Return on Assets	Return on Equity	Revenue Growth	EBITDA Margin	EBITDA Growth	5-yr Beta	TEV / LTM Revenue	TEV / LTM EBITDA
Specialty Chemicals									
The Sherwin-Williams Company	SHW	7.3%	69.3%	5.8%	14.6%	-17.8%	1.1x	3.2x	21.6x
Ecolab Inc.	ECL	5.8%	16.2%	11.5%	20.1%	3.5%	1.0x	3.7x	18.6x
DuPont de Nemours, Inc.	DD	3.7%	6.0%	26.9%	24.2%	27.7%	1.2x	2.3x	9.3x
PPG Industries, Inc.	PPG	4.7%	17.3%	7.9%	12.2%	-14.7%	1.2x	1.9x	15.3x
Celanese Corporation	CE	11.1%	42.5%	36.7%	26.4%	48.0%	1.3x	1.5x	5.5x
	Mean Median	6.5% 5.8%	30.3% 17.3%	17.7% 11.5%	19.5% 20.1%	9.4% 3.5%	1.1x 1.2x	2.5x 2.3x	14.1x 15.3x
Commodity Chemicals									
Dow Inc.	DOW	7.6%	32.3%	15.8%	16.9%	0.1%	1.3x	0.8x	4.6x
LyondellBasell Industries N.V.	LYB	12.7%	47.4%	51.4%	16.3%	36.4%	1.3x	0.7x	4.5x
Westlake Corporation	WLK	14.3%	33.7%	66.3%	32.5%	132.5%	1.2x	1.1x	3.4x
	Mean Median	11.5% 12.7%	37.8% 33.7%	44.5% 51.4%	21.9% 16.9%	56.3% 36.4%	1.3x 1.3x	0.9x 0.8x	4.1x 4.5x
Diversified Chemicals									
Eastman Chemical Company	EMN	7.2%	21.5%	16.5%	20.9%	24.8%	1.5x	1.3x	6.1x
The Chemours Company	CC	8.4%	83.3%	22.4%	19.0%	68.2%	1.9x	1.0x	5.5x
Huntsman Corporation	HUN	8.0%	31.9%	32.7%	14.7%	67.2%	1.2x	0.7x	5.1x
Source: Capital IQ	Mean Median	7.9% 8.0%	45.6% 31.9%	23.9% 22.4%	18.2% 19.0%	53.4% 67.2%	1.5x 1.5x	1.0x 1.0x	5.6x 5.5x

				Return	Profile			Trading	Multiples
Company Name	Ticker	Return on Assets	Return on Equity	Revenue Growth	EBITDA Margin	EBITDA Growth	5-yr Beta	TEV / LTM Revenue	TEV / LTM EBITDA
Industrial Gases									
Linde plc	LIN	4.7%	8.3%	12.7%	32.3%	9.7%	0.9x	4.8x	14.9x
Air Products and Chemicals, Inc.	APD	5.5%	16.2%	22.1%	31.1%	3.6%	0.8x	4.9x	15.7x
	Mean Median	5.1% 5.1%	12.3% 12.3%	17.4% 17.4%	31.7% 31.7%	6.6% 6.6%	0.8x 0.8x	4.8x 4.8x	15.3x 15.3x
Fertilizers & Agricultural Chemicals									
Nutrien Ltd.	NTR	11.2%	27.7%	58.3%	31.8%	180.8%	N/A	1.6x	5.0x
Corteva, Inc.	CTVA	3.9%	6.8%	12.3%	22.7%	19.7%	0.7x	2.7x	11.8x
FMC Corporation	FMC	6.9%	24.3%	15.8%	25.6%	14.7%	0.8x	3.4x	13.2x
	Mean	7.3%	15.2%	27.7%	49.2%	72.9%	0.7x	2.5x	10.0x
Source: Capital IQ	Median	6.9%	13.3%	24.1%	24.1%	69.6%	0.7x	2.7x	11.8x

LTM Equity Performance

Major Indexes

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Recent M&A Activity

Last Twelve (12) Months as of September 30, 2022

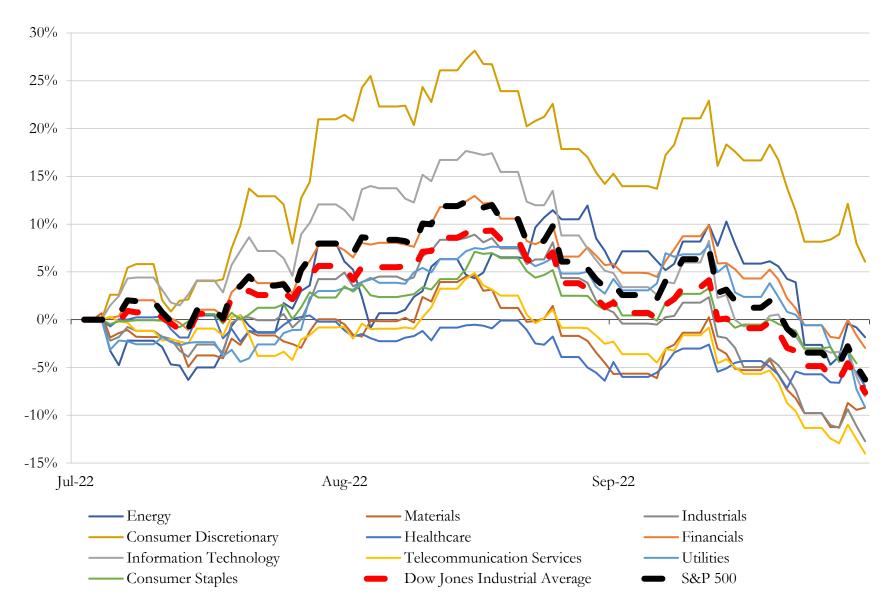
(USD in millions)

Close Date	Target	Acquirer	Implied TEV
Nov-21	Solenis International LLC	Sigura Water	\$5,250
Mar-22	Hexion Holdings Corporation	American Securities LLC	\$3,333
Mar-22	Kraton Corporation	DL Chemical Co., Ltd.	\$2,568
Sep-22	GCP Applied Technologies Inc.	Compagnie de Saint-Gobain S.A.	\$2,307
Apr-22	Ferro Corporation	Prince International Corporation	\$2,161
Feb-22	Performance Adhesives Business of Ashland LLC	Arkema S.A.	\$1,650
Jul-22	Microbial Control Business Unit of International Flavors & Fragrances Inc.	LANXESS Aktiengesellschaft	\$1,300
Dec-21	Santoprene TPV Elastomers Business of ExxonMobil Chemical Company, Inc.	Celanese Corporation	\$1,150
Apr-22	Adhesive Resins business of Eastman Chemical Company	Synthomer plc	\$1,000
Nov-21	Tire Additives Business of Eastman Chemical	One Rock Capital Partners, LLC	\$800
May-22	Quality Synthetic Rubber, Inc.	Dätwyler Holding AG	\$625
Dec-21	Mining Solutions Business of The Chemours Company	Draslovka Holding A.S.	\$521
Dec-21	Clean Technologies Business Of Dupont De Nemours, Inc. (nka:Elessent Clean	U.SChina Green Investment Management Ltd.; Dussur; BPGC Management	\$510
Apr-22	Raven Engineered Films, Inc.	Industrial Opportunity Partners, LLC; Industrial Opportunity Partners IV	\$350
Dec-21	Custom Essence Incorporated	Givaudan SA	\$268
Jul-22	Marrone Bio Innovations, Inc.	Bioceres Crop Solutions Corp.	\$264
Apr-22	Scientific Design Company, Inc.	Saudi Basic Industries Corporation	\$26 0
Mar-22	dlhBOWLES Inc.	ABC Technologies Holdings Inc.	\$255
Jun-22	Trecora Resources	Balmoral Funds LLC	\$254
Sep-22	Nucera Solutions LLC	Chase Corporation	\$250
May-22	Biomaterials business of DuPont de Nemours, Inc.	Huafon Group Co., Ltd.	\$240
Oct-21	Fruit Preparation Business of International Flavors & Fragrances Inc.	Frulact S.A.	\$115
Mar-22	Purification Solutions Business of Cabot Corporation (NYSE : CBT)	OEP Capital Advisors, L.P.	\$111
Feb-22	U.S. Amines Limited	AdvanSix Inc.	\$98
Feb-22	Intertech Plastics, Inc.	TriMas Corporation	\$64
Oct-21	Plymouth Foam Inc.	Foam Fabricators, Inc	\$56
Oct-21	DTI, Inc.	Synalloy Corporation (nka:Ascent Industries Co.)	\$33
Mar-22	Tucson Rubber Corporation	Effox-Flextor-Mader, Inc.	\$24
Dec-21	Assets of Four Star Industries LLP	Allied Tube & Conduit Corp.; Atkore HDPE, LLC	\$23
Dec-21	Omega Plastics Inc.	TriMas Corporation	\$23

Source: Capital IQ

Change in Market Capitalization by Sector

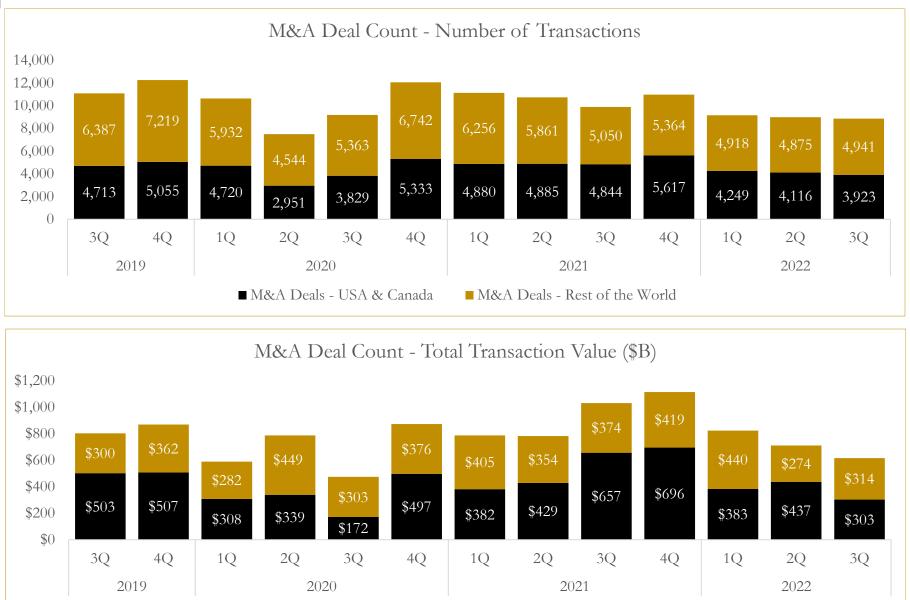
Last Three (3) Months as of September 30, 2022



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M&A Deal Flow Statistics

Last Three (3) Years as of September 30, 2022



Transaction Value - Rest of World

■ Transaction Value - USA & Canada

Q3 2022 | Industry Update – Chemicals

Source: Capital IQ

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About Houlihan Capital

Houlihan Capital is a leading, solutions-driven valuation, financial advisory and boutique investment banking firm. We pride ourselves on being thought leaders in an ever-changing landscape.

Houlihan Capital is SOC-compliant, a FINRA and SIPC member and committed to the highest levels of professional ethics and standards.

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We provide an array of services that include enterprise valuations, portfolio valuation, valuation of carried interest, transaction opinions, tax and financial reporting compliance, purchase price allocations, and a wide variety of consulting services through our Financial Advisory Group.

Investment Banking

Through our Investment Banking Group, we offer sell-side/buy-side advisory and capital raises. Through our Special Situations desk, we provide services that fit outside the archetypal verticals, including liquidity solutions, transactional advisory, and secondary market advisory and trading.

Litigation Support

Our team provides support for a wide variety of situations including commercial and shareholder disputes, derivatives and structured finance litigation, and fraudulent conveyance.

