




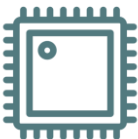






Advanced Materials and Chemicals Update

May 2023

Advanced Polymers 	Agriculture Chemicals 	Catalysts 	ChemTech 	Coatings 
Electronic Materials 	Engineered Materials 	Biosciences / Bio-Chemicals / Bio-Industrials 	Ingredients and Additives 	Sustainable Materials 

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Key Index Trading Performance

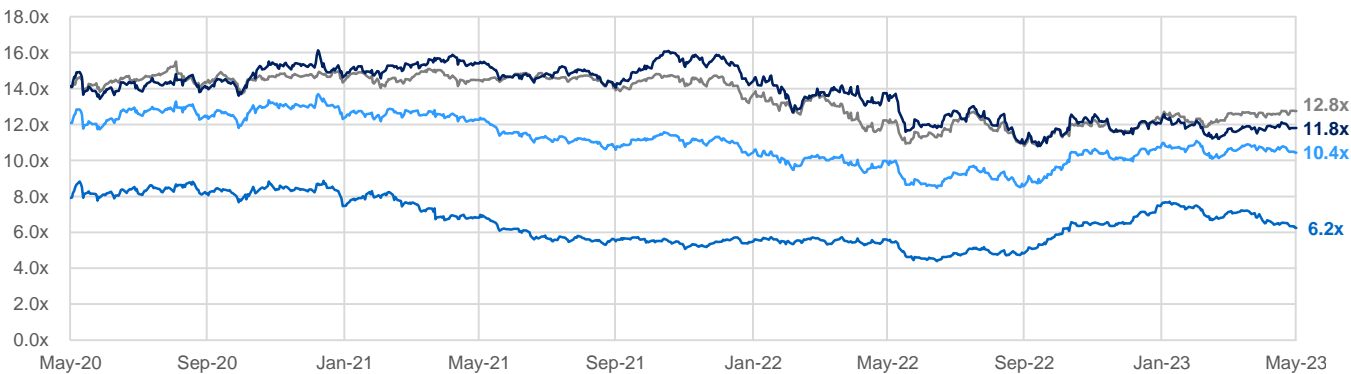
	Share Price Performance				
	3-Years	1-Year	YTD	3 Months	1 Month
S&P 500	37%	1%	9%	5%	0%
S&P Chemicals Index	34%	(11%)	(3%)	(8%)	(7%)
S&P Commodity Chemicals Index	43%	(25%)	(2%)	(14%)	(10%)
S&P Specialty Chemicals Index	13%	(15%)	(4%)	(7%)	(4%)

(Indexed to 100)



	Average Performance (EV / NTM EBITDA)					
	3-Years	1-Year	YTD	3 Months	1 Month	Current
S&P 500	13.5x	12.0x	12.4x	12.5x	12.6x	12.8x
S&P Chemicals Index	11.1x	9.9x	10.6x	10.6x	10.6x	10.4x
S&P Commodity Chemicals Index	6.6x	6.0x	7.0x	6.9x	6.5x	6.2x
S&P Specialty Chemicals Index	13.8x	12.0x	11.8x	11.7x	11.9x	11.8x

(EV / NTM EBITDA)



Advanced Materials and Chemicals Industry M&A Activity

	2023		2022		YoY Change	
	#	Value (\$bns)	#	Value (\$bns)	#	Value
January	71	\$2.4	81	\$7.3	(12%)	(67%)
February	44	\$2.3	61	\$16.9	(28%)	(86%)
March	66	\$17.5	77	\$4.9	(14%)	257%
April	42	\$2.8	69	\$5.2	(39%)	(47%)
May	59	\$8.3	60	\$29.2	(2%)	(72%)
Year to Date	282	\$33.3	348	\$63.6	(19%)	(48%)

Select Mergers & Acquisitions

Nomura Greentech's Take:

- Continued activity focusing on securing lithium supply across the value chain (see next page)

- On May 2, **DuPont**, a developer of specialty materials and chemicals, announced that it entered into a definitive agreement to acquire **Spectrum Plastics Group**, a company engaged in designing, engineering, fabricating and delivering custom plastic extrusion products, from the PE firm, **AEA Investors**, for a purchase price of **\$1.8 billion** ([Press Release](#))
- On May 8, **Canlak Coatings Inc.**, a manufacturer of wood coating systems for commercial and residential flooring, announced it has acquired Osseo, Minnesota-based **Ceramic Industrial Coatings**, a manufacturer of proprietary wood coating systems and related CASE products ([Press Release](#))
- On May 9, **Biosynth**, a supplier of critical raw materials to the life science industry, announced the acquisition of **Cambridge Research Biochemicals**, a leading independent producer of custom-made peptide and antibody tools, based in the UK and supplying researchers in the pharmaceutical, life science and academic sectors ([Press Release](#))
- On May 10, **Allkem** and **Livent** announced a definitive agreement to combine in an all-stock merger of equals valuing the combined lithium chemicals producing company at **\$10.6 billion**, creating a leading global lithium chemicals producer with pro-forma CY' 22 combined revenue of approximately **\$1.9 billion** ([Press Release](#))
- On May 16, **Azelis**, a leading global innovation service provider in the specialty chemicals and food ingredients industry, announced that it has signed an agreement to acquire 100% of the shares of **Gilco Ingredients**, a leading specialty ingredient provider in the food & nutrition market in the U.S. ([Press Release](#))
- On May 17, **Arkema**, a French producer of high-performance materials and industrial specialties, announced it has acquired **Polytec PT**, a German developer of thermal interface materials for batteries and engineering adhesives ([Press Release](#))
- On May 30, **GreenLight Biosciences**, a developer and producer of ribonucleic acid products for human therapies and agriculture, has agreed to be acquired by a group of buyers led by **Fall Line Capital**, for **\$45.5 million** ([Press Release](#))

Select Capital Raises

- On May 4, **Impact Nano L.L.C.**, a U.S.-based chemical manufacturing company enabling sustainable computing with advanced materials, announced it raised **\$32 million** in funding in successive rounds from **Goldman Sachs Asset Management**, **Intel Capital** and other investors ([Press Release](#))
- On May 16, **Noveon Magnetics**, a San Marcos, Texas-based manufacturer of high-performance neodymium sustainable rare earth magnets, raised a **\$75 million** Series B funding round led by **NGP** and **Aventurine Partners** ([Press Release](#))
- On May 17, **iDeal Semiconductor**, a Bethlehem, Pennsylvania-based developer of next generation silicon power devices, raised **\$40 million** in a funding round from undisclosed investors ([Reuters](#))

Regulatory Announcements

- The **Biden-Harris Administration** proposed reforms to the new chemical review process in an effort to protect public health, as well as promote efficiency and consistency, proposing to remove low volume and exposure exemptions for new PFAS and other persistent chemicals to ensure a robust safety review ([Environmental Protection Agency](#))

Corporate and Market Announcements

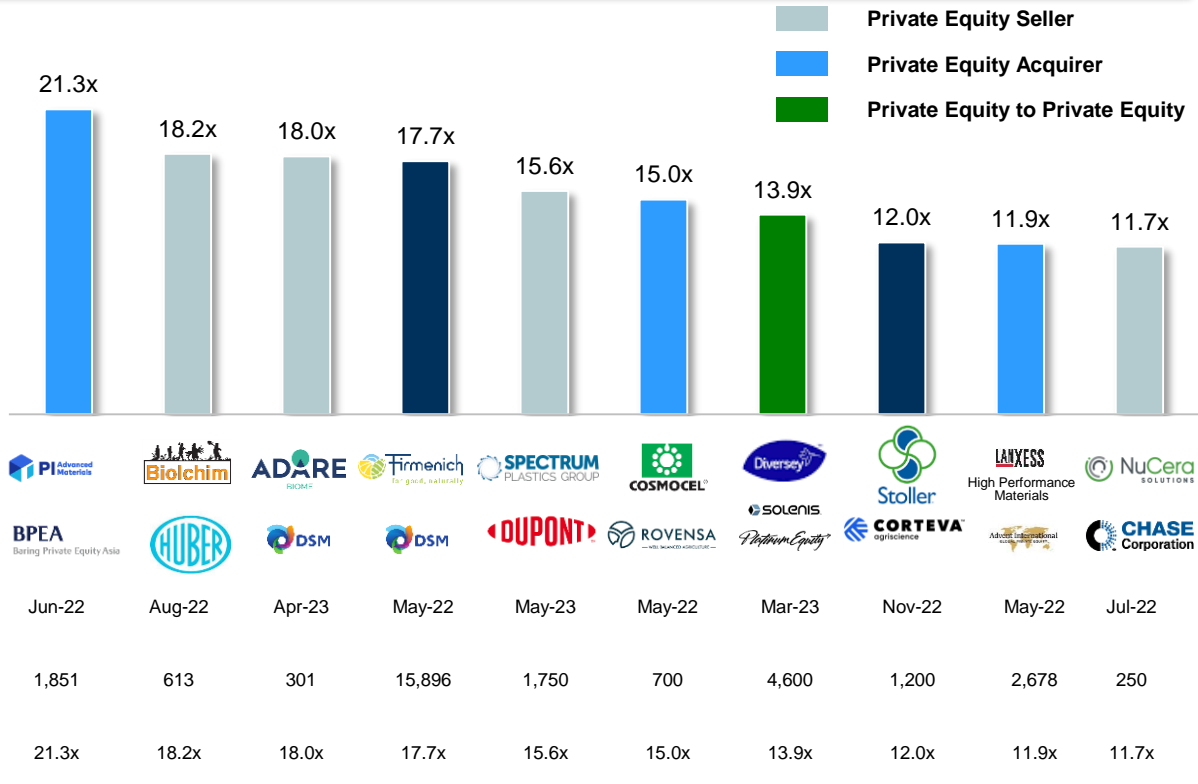
- **ADM** and **Air Protein** announced that they have entered into a strategic development agreement to collaborate on research and development to further advance new and novel proteins for nutrition, including a unique landless protein ([Press Release](#))
- **Amyris, Inc.** announced that it has signed an exclusive license agreement with British specialty chemicals company **Croda International Plc** for the supply of sustainable squalene ([Press Release](#))
- **Azelis** and **Novozymes** announced they will expand their partnership to Malaysia for the agricultural & environmental solutions market, with **Azelis** distributing **Novozymes'** bio-based agriculture solutions in Malaysia ([Press Release](#))
- **Ford Motor** has signed lithium supply agreements with major lithium producers **Albemarle** and **SQM** as well as the less-established players **Nemaska Lithium**, **Compass Minerals** and **EnergySource Minerals** ([Press Release](#))
- **Imperial College London** will receive £17.8 million from the Engineering & Physical Sciences Research Council (EPSRC) and industry partners including **BASF** under the EPSRC Prosperity Partnership programme to help make chemical manufacturing more efficient, resilient and sustainable ([Imperial College London](#))
- **LanzaTech Global, Inc.** and **ADNOC** have entered a partnership to explore innovative technology solutions to reduce the industrys carbon footprint while producing sustainable fuels and chemicals ([Press Release](#))
- **Modern Meadow**, a purpose-driven biotechnology company, announced a partnership with **Evonik**, a leader in specialty ingredients for the beauty and personal care industry, to create sustainable, clean beauty products that are high-quality and animal-free ([Press Release](#))
- **Octarine Bio**, a synthetic biology company developing new sustainable bio-based ingredients, and **Ginkgo Bioworks** announced a multi-stage partnership focused on compounds in the tryptophan pathway, with the objective of engineering a strain for producing violacein and its derivatives ([Press Release](#))
- **Standard Lithium** announced a Joint Development Agreement with **Koch Technology Solutions** to share data and jointly develop and commercialize integrated lithium brine processing flowsheets for **Standard Lithium's** exclusive use in the Smackover Formation ([Press Release](#))

Nomura Greentech's Take:

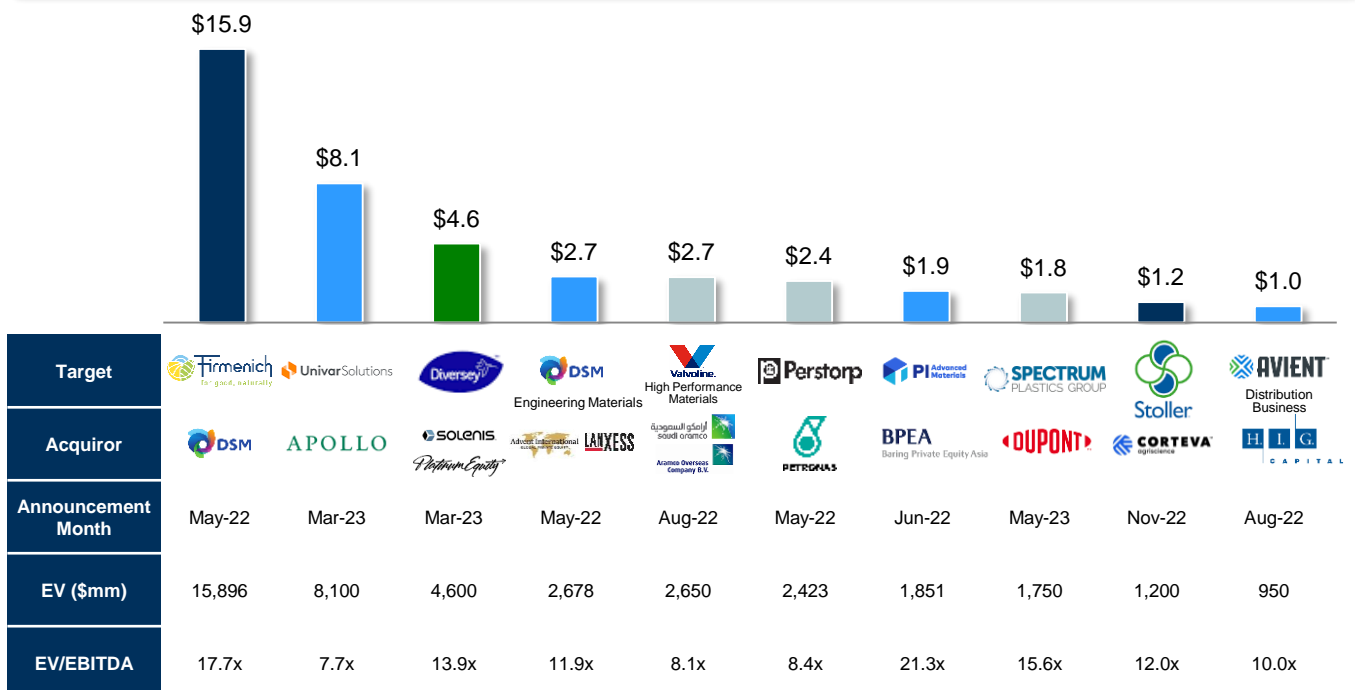
- Continued activity focusing on securing lithium supply across the value chain (see previous page)

Advanced Materials and Chemicals Transaction Statistics (LTM)

Highest Multiples Paid



Largest Transaction Size by EV



Source: Company filings, Mergermarket, Factset as of May 31st, 2023. All estimates reflect Factset consensus estimates. Nomura is not associated, affiliated, authorized, sponsored, or endorsed by any of the third parties referenced herein. All third party names, marks, and logos are trademarks™ or registered® trademark of their respective owners.

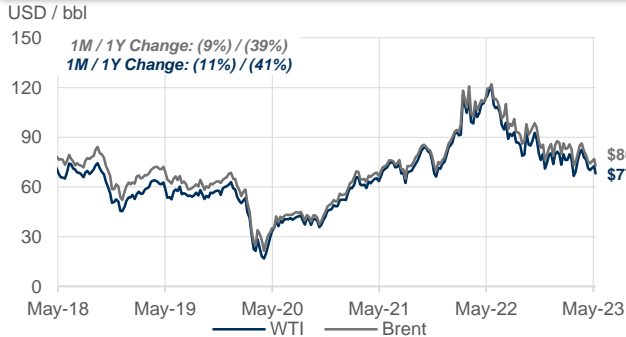
Markets Update

Advanced Materials and Chemicals

Historical Commodity Pricing

Conventional Chemical Commodities

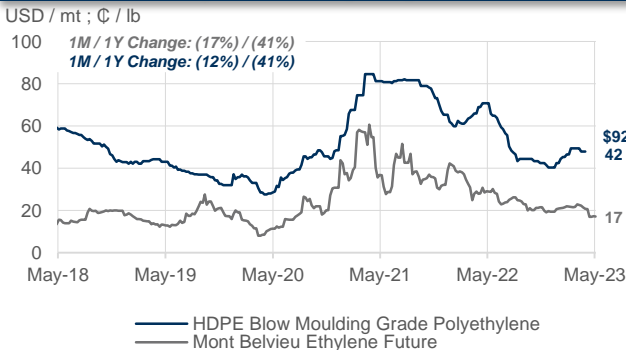
WTI / Brent



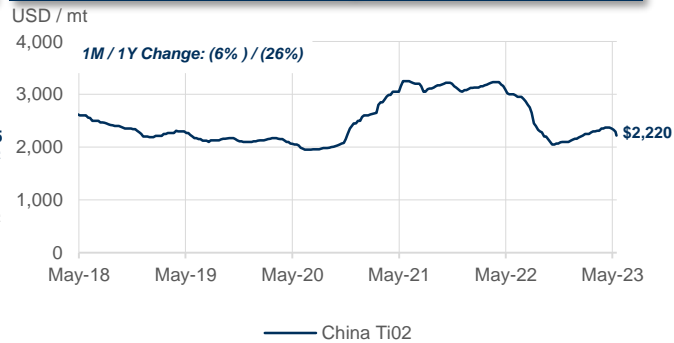
Natural Gas



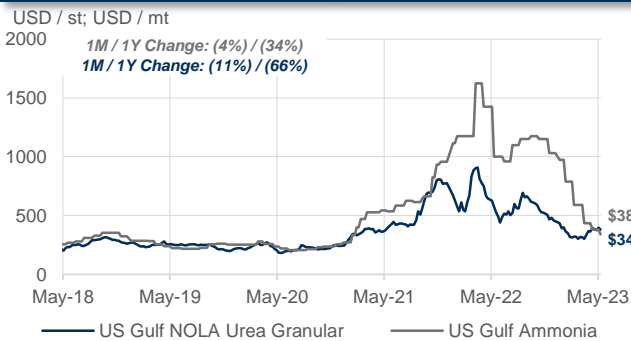
Ethylene / Polyethylene



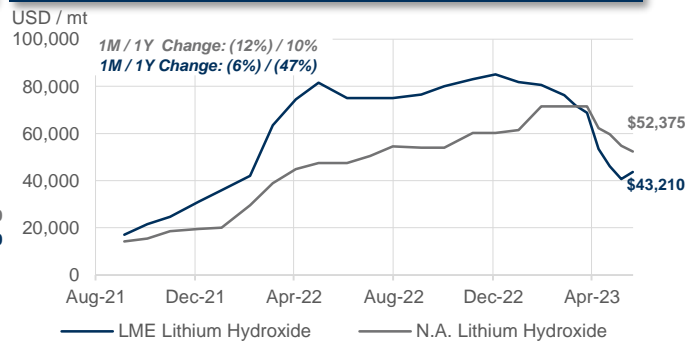
TiO₂



Nitrogen



Lithium



Corn

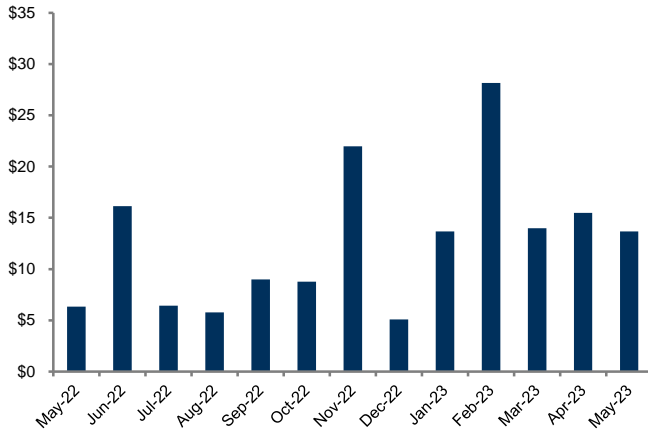


Soy

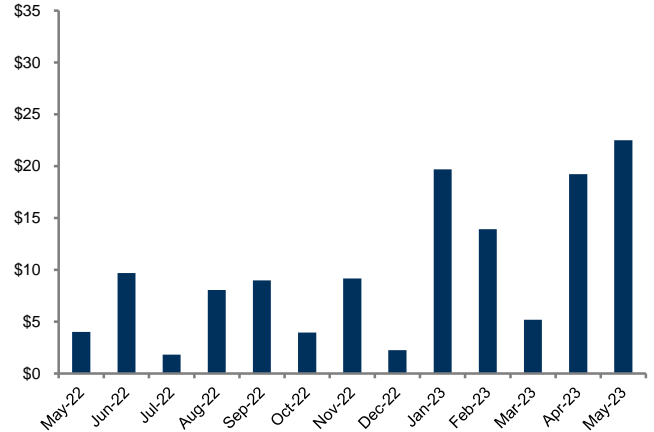


Crops

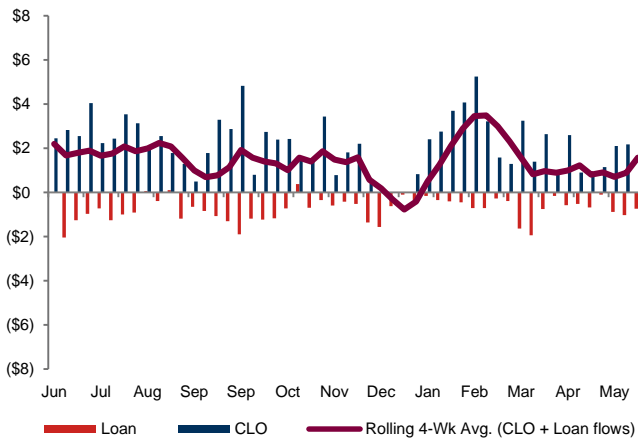
Loan Volume



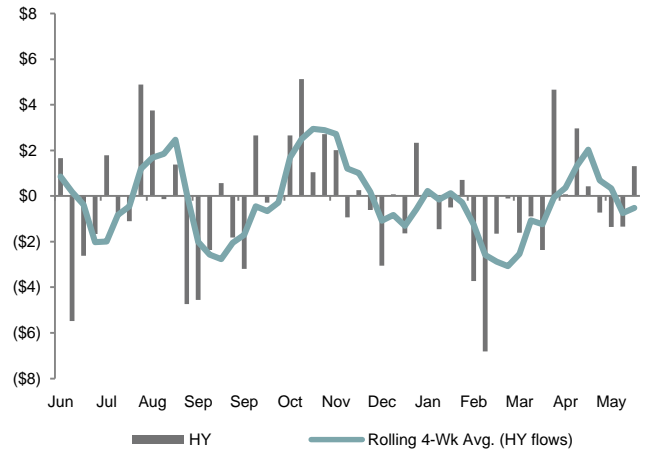
High Yield Volume (\$bn)



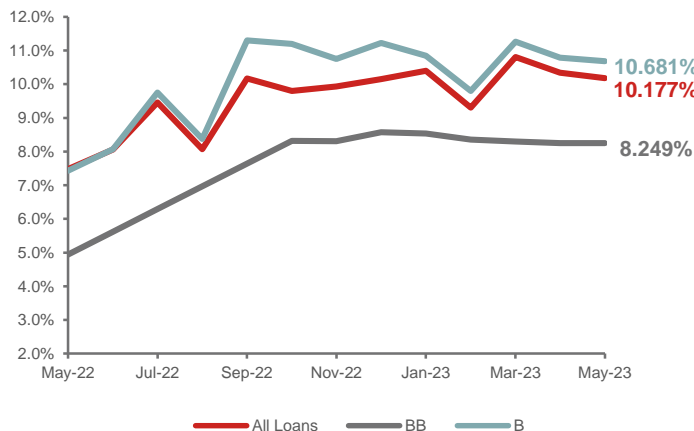
CLO Issuance + Loans Funds Flows (\$bn)



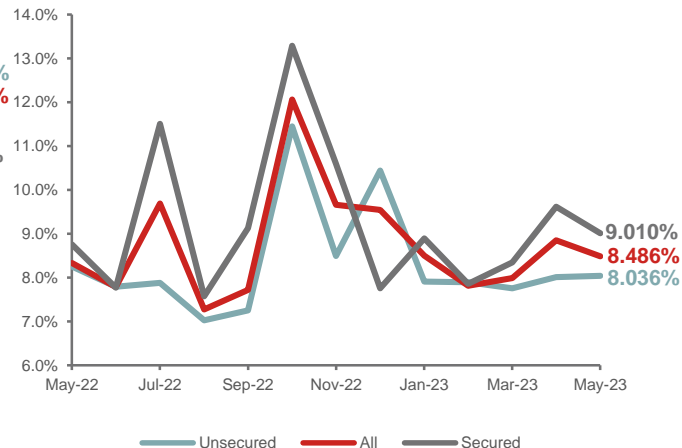
Recent High Yield Funds Flows (\$bn)



Leveraged Loan New Issue Yields¹



High Yield New Issue Yields²



Source: Nomura, LCD.

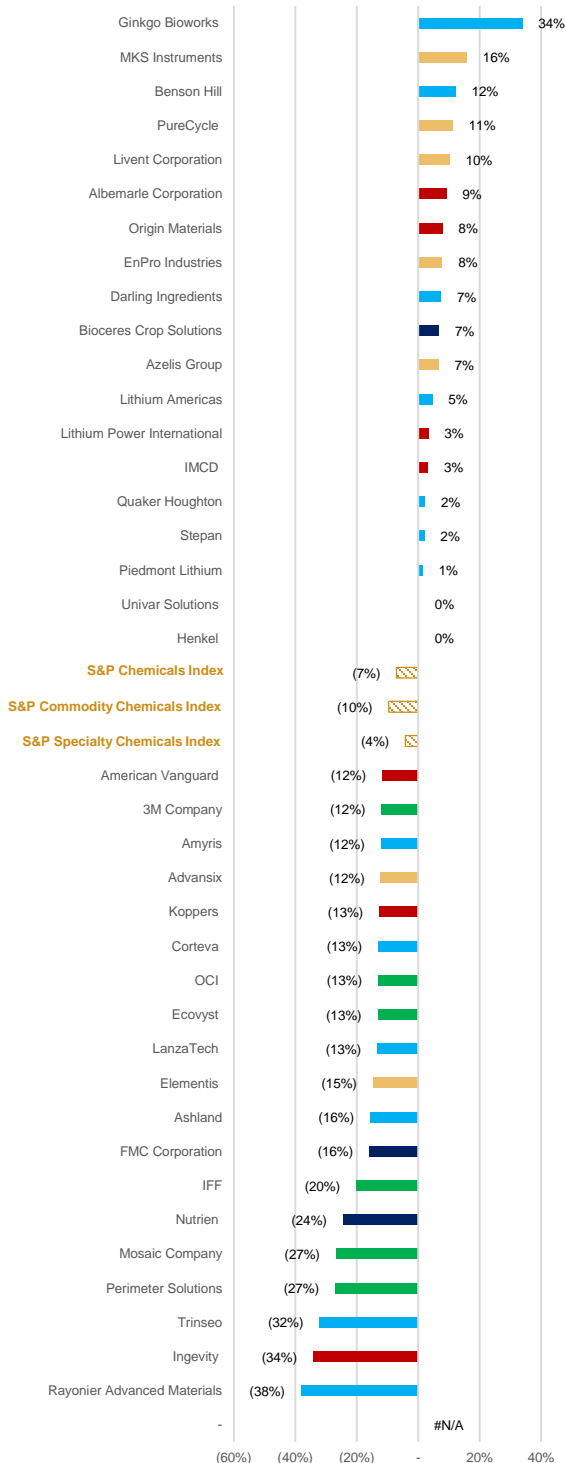
1. Reflects rolling 30-day period.

2. New Issue Yields reflect unsecured debt only.

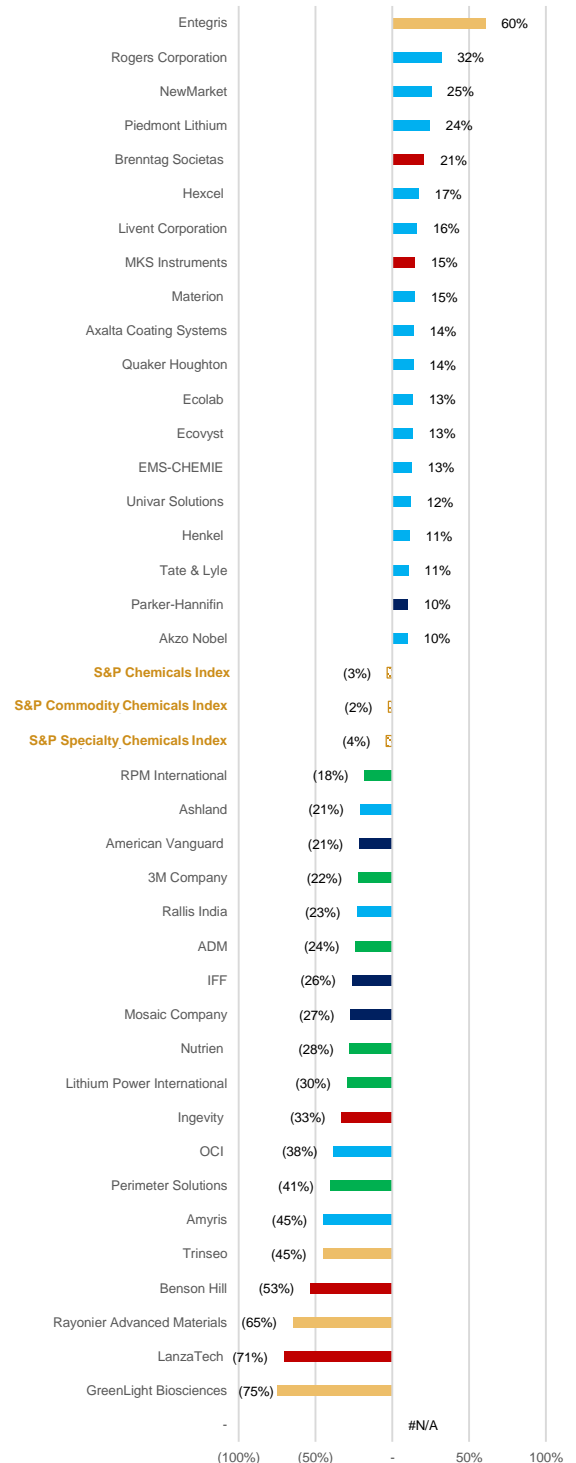
Advanced Materials and Chemicals

Share Price Performance

1 Month (Top & Bottom 20 Performers)



Year-to-Date (Top & Bottom 20 Performers)



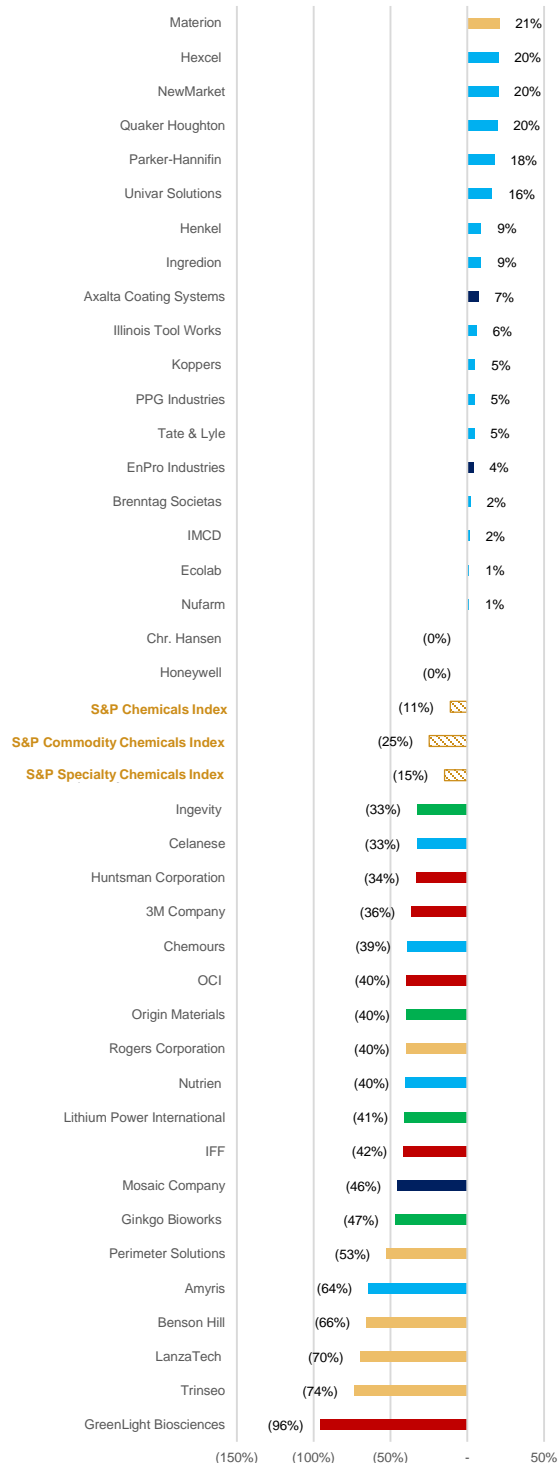
● Agriculture Chemicals
 ● Commodity & Diversified
 ● Chemicals Technology
 ● Ingredients
 ● Specialties
 ● Indices

Source: Factset as of May 31st, 2023, third-party providers.

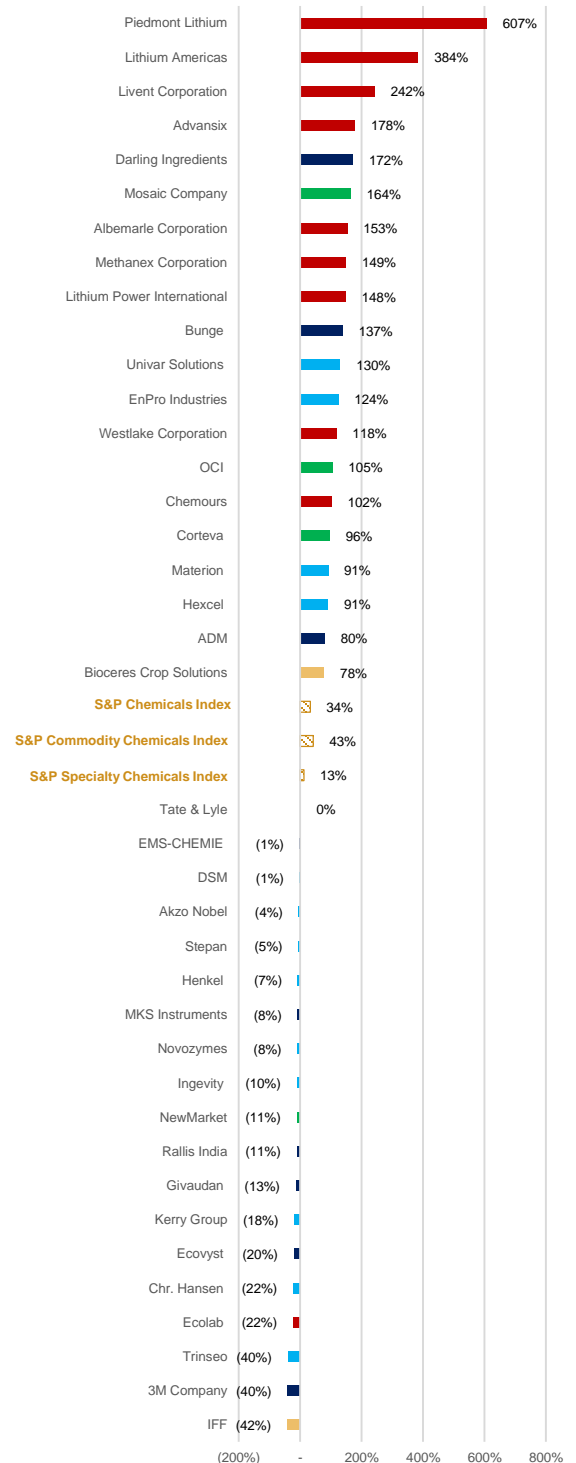
Advanced Materials and Chemicals

Share Price Performance

1 Year (Top & Bottom 20 Performers)



3 Years (Top & Bottom 20 Performers)



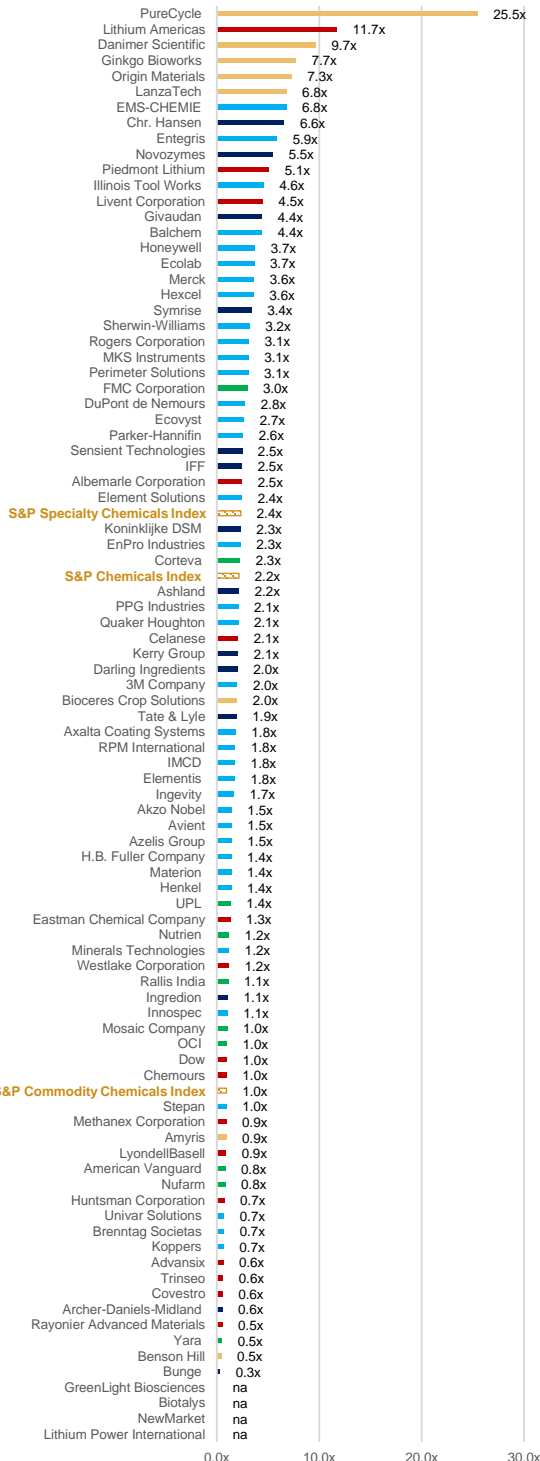
● Agriculture Chemicals
 ● Commodity & Diversified
 ● Chemicals Technology
 ● Ingredients
 ● Specialties
 ● Indices

Source: Factset as of May 31st, 2023, third-party providers.

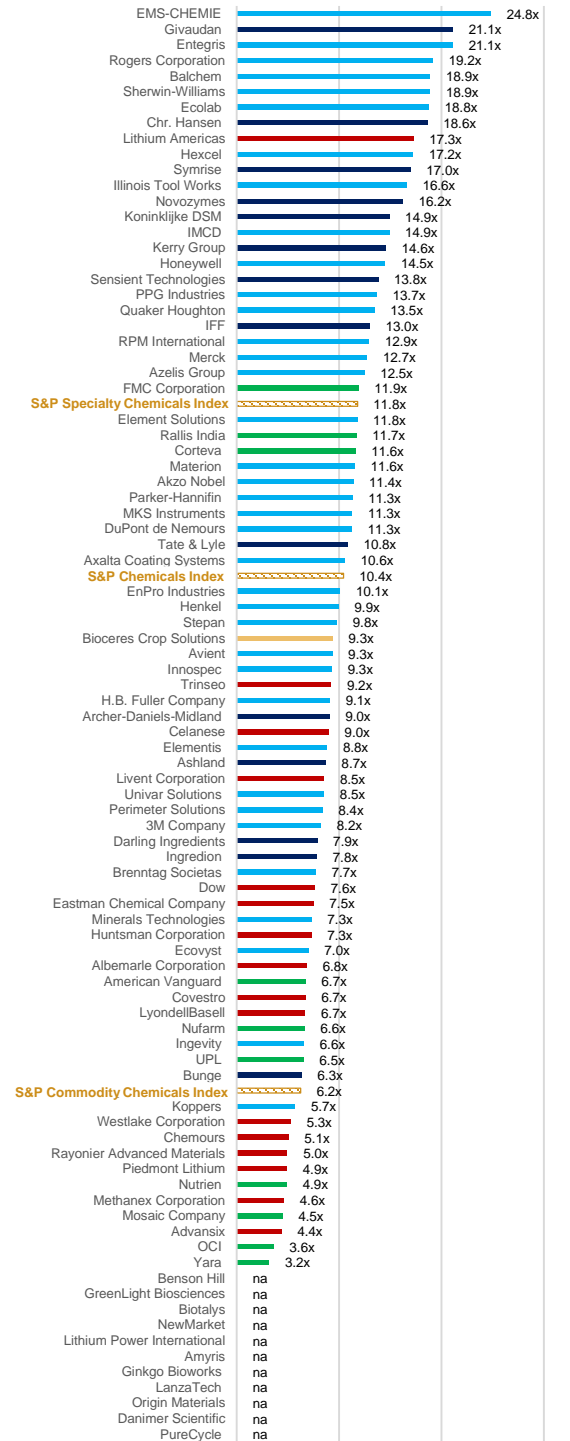
Advanced Materials and Chemicals

Trading Multiples

EV / 2023E Sales



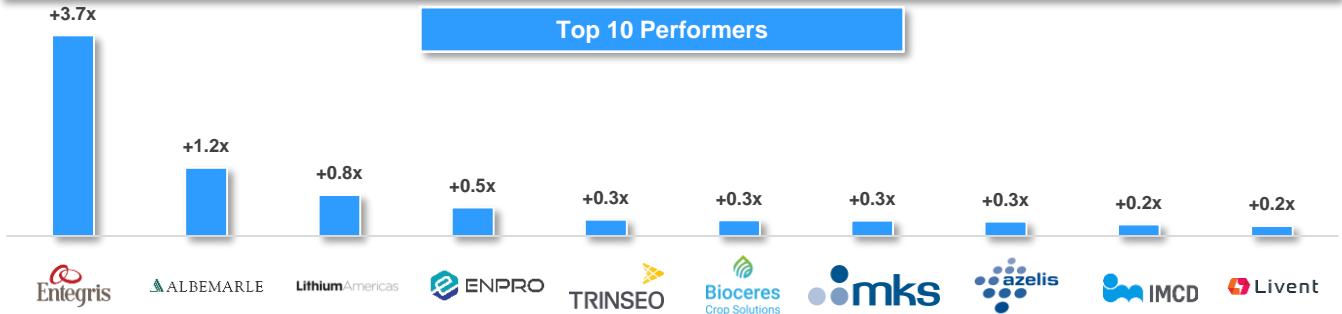
EV / 2023E EBITDA



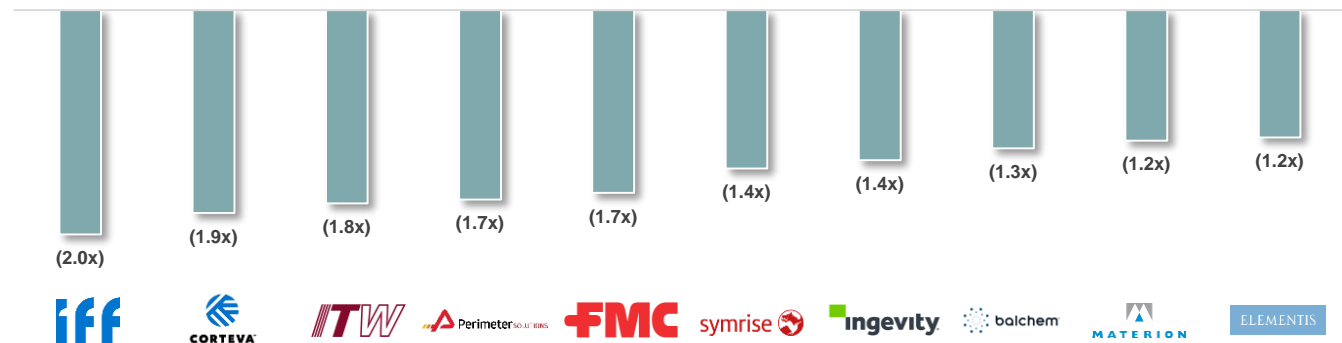
Advanced Materials and Chemicals Top & Bottom Performers (EV Multiple)

1 Month Change (EV / NTM Multiple)

Top 10 Performers

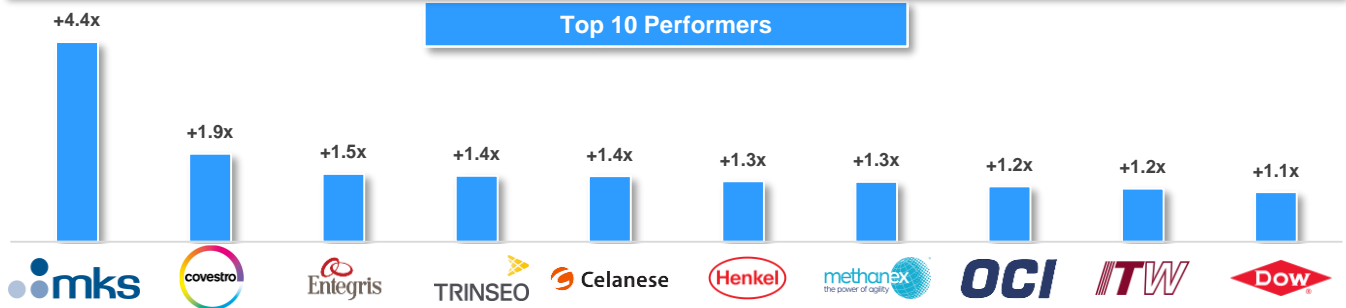


Bottom 10 Performers

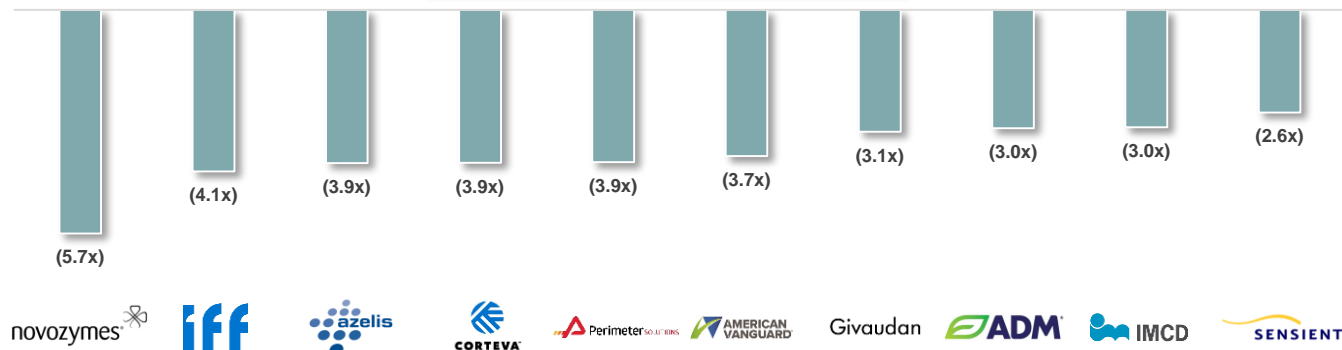


1 Year Change (EV / NTM Multiple)

Top 10 Performers



Bottom 10 Performers



Source: Factset as of May 31st, 2023. All estimates reflect Factset consensus estimates.

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Trading Comparables

Advanced Materials and Chemicals

Trading Comparables

Agriculture Chemicals

Company	Local					EBITDA			Sales									
	Local Currency	Price as of 31-May-2023	% of 52 week high	Price Return YTD	Dividend Yield	Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA		Price/Earnings		Net Leverage 2023E	
AgChem Majors																		
Corteva Inc	USD	53.49	78%	(6%)	1.2%	18,751	3,657	19.5%	5.9%	38,301	42,399	2.3x	11.6x	10.6x	18.2x	15.4x	0.7x	
FMC Corporation	USD	104.08	77%	(16%)	2.2%	6,134	1,531	25.0%	5.4%	13,077	18,234	3.0x	11.9x	11.1x	13.5x	11.9x	3.4x	
Tier 1 Mean			78%	(11%)	1.7%			22.2%	5.6%			2.6x	11.8x	10.8x	15.8x	13.7x	2.1x	
Tier 1 Median			78%	(11%)	1.7%			22.2%	5.6%			2.6x	11.8x	10.8x	15.8x	13.7x	2.1x	
AgChem Diversified																		
American Vanguard Corporation	USD	17.06	66%	(21%)	n.a.	640	80	12.6%	7.3%	508	540	0.8x	6.7x	6.0x	n.m.	n.m.	0.4x	
Nufarm Limited	AUD	5.45	85%	(10%)	2.1%	2,390	300	12.6%	0.3%	1,351	1,987	0.8x	6.6x	6.3x	14.1x	13.2x	2.0x	
Rallis India Limited	INR	189.55	70%	(21%)	1.9%	381	37	9.7%	10.4%	446	433	1.1x	11.7x	9.1x	24.0x	17.5x	(0.4)x	
UPL Limited	INR	686.30	85%	(4%)	1.9%	6,856	1,432	20.9%	8.3%	6,227	9,361	1.4x	6.5x	6.0x	11.9x	9.8x	2.2x	
Tier 2 Mean			76%	(14%)	2.0%			13.9%	6.6%			1.0x	7.9x	6.8x	16.7x	13.5x	1.0x	
Tier 2 Median			78%	(16%)	1.9%			12.6%	7.8%			1.0x	6.7x	6.1x	14.1x	13.2x	1.2x	

Agriculture Technology

Company	Local					EBITDA			Sales								
	Local Currency	Price as of 31-May-2023	% of 52 week high	Price Return YTD	Dividend Yield	Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA 2023E	2024E	Price/Earnings 2023E	2024E	Net Leverage 2023E
Ag Tech																	
Benson Hill, Inc.	USD	1.19	29%	(44%)	n.a.	428	(57)	(13.2%)	3.3%	260	194	0.5x	n.m.	n.m.	n.m.	n.m.	n.m.
Bioceres Crop Solutions Corp.	USD	11.93	77%	(3%)	n.a.	471	99	21.1%	23.2%	748	929	2.0x	9.3x	8.7x	n.m.	n.m.	1.4x
Biotalsys NV	EUR	6.02	81%	(11%)	n.a.	3	(21)	n.m.	8.9%	212	177	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.
GreenLight Biosciences Holdings, PBC	USD	0.29	4%	(75%)	n.a.	4	(128)	n.m.	61.2%	44	(24)	n.m.	0.2x	0.2x	n.m.	n.m.	n.m.
Mean			54%	34%	NA			4.0%	24.2%			1.2x	4.8x	4.5x	NA	NA	1.4x
Median			77%	(11%)	NA			4.0%	16.1%			1.2x	4.8x	4.5x	NA	NA	1.4x

Coatings, Adhesives, Sealants and Elastomers (CASE)

Company	Local				EBITDA			Sales										Net Leverage
	Local Currency	Price as of 31-May-2023	% of 52 week high	Price Return YTD	Dividend Yield	Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA		Price/Earnings			
CASE																		
Akzo Nobel N.V.	EUR	70.44	85%	14%	2.9%	11,728	1,509	12.9%	2.5%	12,476	17,193	1.5x	11.4x	9.6x	18.1x	14.2x	3.6x	
Axalta Coating Systems Ltd.	USD	29.01	89%	18%	n.a.	5,263	920	17.5%	6.1%	6,501	9,728	1.8x	10.6x	9.7x	18.9x	15.7x	3.3x	
Chase Corporation	USD	117.60	97%	38%	n.a.	n.a.	n.a.	n.m.	n.m.	1,118	956	n.m.	n.m.	n.m.	n.a.	n.a.	n.a.	
H.B. Fuller Company	USD	62.94	77%	(10%)	1.2%	3,734	587	15.7%	2.8%	3,530	5,335	1.4x	9.1x	8.2x	14.8x	12.3x	3.1x	
Henkel AG & Co. KGaA	EUR	67.12	96%	11%	2.8%	23,142	3,281	14.2%	(0.9%)	31,075	32,630	1.4x	9.9x	9.5x	17.0x	15.6x	0.4x	
PPG Industries, Inc.	USD	131.29	90%	7%	1.9%	18,150	2,789	15.4%	3.3%	31,059	38,179	2.1x	13.7x	12.5x	18.1x	16.2x	2.4x	
Quaker Houghton	USD	189.81	88%	16%	0.5%	2,020	314	15.6%	3.5%	3,448	4,228	2.1x	13.5x	12.4x	19.1x	15.8x	2.4x	
RPM International Inc.	USD	79.79	75%	(18%)	2.3%	7,299	1,019	14.0%	3.6%	10,551	13,176	1.8x	12.9x	11.5x	18.6x	16.1x	2.6x	
Sherwin-Williams Company	USD	227.78	82%	(4%)	1.1%	21,977	3,726	17.0%	1.6%	59,406	70,353	3.2x	18.9x	17.5x	26.5x	23.9x	2.9x	
Mean			87%	8%	1.8%			15.3%	2.8%			1.9x	12.5x	11.4x	18.9x	16.2x	2.6x	
Median			88%	11%	1.9%			15.5%	3.1%			1.8x	12.2x	10.6x	18.4x	15.8x	2.8x	

Chemical Distribution

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	Sales		EV/Sales 2023E	EV/EBITDA 2023E	EV/EBITDA 2024E	Price/Earnings		Net Leverage 2023E
		Price as of 31-May-2023	Value								Enterprise Value	2023E				2024E		
Chemical Distribution																		
Azelis Group N.V.	EUR	22.94	84%		(13%)	1.6%	4,878	569	11.7%	8.4%	5,965	7,092	1.5x	12.5x	11.5x	18.6x	17.0x	2.0x
Brenntag Societas Europaea	EUR	73.38	95%		25%	2.8%	19,674	1,776	9.0%	(0.1%)	12,087	13,701	0.7x	7.7x	7.3x	13.2x	12.4x	0.9x
IMCD N.V.	EUR	140.55	89%		7%	1.7%	5,187	624	12.0%	5.1%	8,546	9,286	1.8x	14.9x	14.4x	21.6x	20.7x	1.1x
Univar Solutions Inc.	USD	35.62	100%		12%	0.5%	11,200	924	8.2%	(0.9%)	5,740	7,872	0.7x	8.5x	8.2x	12.6x	11.4x	2.2x
Mean			92%		8%	1.6%			10.2%	3.1%			1.2x	10.9x	10.3x	16.5x	15.4x	1.6x
Median			92%		10%	1.6%			10.3%	2.5%			1.1x	10.5x	9.8x	15.9x	14.7x	1.6x

Chemical Technology

Company	Local					EBITDA			Sales								
	Local Currency	Price as of 31-May-2023	% of 52 week high	Price Return YTD	Dividend Yield	Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2023-2025	Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA 2023E 2024E		Price/Earnings 2023E 2024E		Net Leverage 2023E
ChemTech																	
Danimer Scientific, Inc. Class A	USD	2.89	49%	73%	n.a.	69	(30)	n.m.	68.9%	301	666	9.7x	n.m.	n.m.	n.m.	n.m.	n.m.
Origin Materials, Inc.	USD	4.23	55%	(3%)	n.a.	46	(59)	n.m.	n.m.	659	335	7.3x	n.m.	n.m.	n.m.	n.m.	n.m.
PureCycle Technologies Inc	USD	6.89	63%	6%	n.a.	46	(53)	n.m.	n.m.	1,164	1,182	25.5x	n.m.	n.m.	n.m.	n.m.	n.m.
Mean			56%	25%	NA			NA	68.9%			14.1x	NA	NA	NA	NA	NA
Median			55%	6%	NA			NA	68.9%			9.7x	NA	NA	NA	NA	NA

Commodity

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	EBITDA			Sales		Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA		Price/Earnings		Net Leverage 2023E
		Price as of 31-May-2023					2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	2023E				2024E	2023E	2024E	2023E	
Commodity																			
AdvanSix, Inc.	USD	32.90	69%	(11%)	0.9%	1,650	235	14.2%	(5.7%)	938	1,025	0.6x	4.4x	3.8x	7.3x	8.4x	0.4x		
Dow, Inc.	USD	48.78	70%	(2%)	5.7%	48,801	6,332	13.0%	(5.0%)	35,013	48,347	1.0x	7.6x	6.2x	15.9x	10.5x	1.8x		
LyondellBasell Industries NV	USD	85.54	73%	4%	5.6%	43,248	5,774	13.4%	(14.1%)	27,962	38,667	0.9x	6.7x	6.6x	8.8x	8.6x	1.7x		
Methanex Corporation	CAD	55.48	74%	10%	1.8%	3,794	776	20.5%	(3.3%)	2,833	3,581	0.9x	4.6x	3.8x	13.0x	8.7x	0.9x		
Westlake Corporation	USD	103.95	76%	6%	1.4%	13,890	3,112	22.4%	(4.5%)	13,411	16,433	1.2x	5.3x	5.1x	9.4x	9.2x	0.9x		
Mean			72%	1%	3.1%			16.7%	(6.5%)			0.9x	5.7x	5.1x	10.9x	9.1x	1.2x		
Median			73%	4%	1.8%			14.2%	(5.0%)			0.9x	5.3x	5.1x	9.4x	8.7x	0.9x		

Advanced Materials and Chemicals

Trading Comparables

Diversified

company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales		EBITDA		CAGR	Sales		Equity Value	Enterprise Value	EV/Sales	EV/EBITDA		Price/Earnings		Net Leverage
		Price as of 31-May-2023					2023E	EBITDA 2023E	Margin 2023E	2022E-2024E		2023E	2024E				2023E	2024E			
Diversified																					
Celanese Corporation	USD	104.02	64%	64%	6%	2.7%	11,906	2,757	23.2%	13.7%	11,350	24,758	2.1x	9.0x	7.9x	9.3x	7.3x	4.8x			
Chemours Co.	USD	26.49	59%	59%	(9%)	3.8%	6,584	1,267	19.3%	1.8%	3,951	6,424	1.0x	5.1x	4.3x	6.2x	4.8x	2.0x			
Covestro AG	EUR	36.06	81%	81%	4%	1.0%	17,548	1,466	8.4%	(2.4%)	7,427	9,829	0.6x	6.7x	5.3x	37.3x	12.4x	1.3x			
Eastman Chemical Company	USD	77.09	68%	68%	(2%)	4.1%	10,266	1,829	17.8%	0.7%	9,260	13,725	1.3x	7.5x	6.8x	9.8x	8.6x	2.4x			
Huntsman Corporation	USD	23.75	64%	64%	(10%)	4.0%	6,959	710	10.2%	(6.3%)	4,303	5,180	0.7x	7.3x	5.3x	16.2x	9.7x	1.2x			
Koppers Holdings Inc.	USD	28.96	75%	75%	3%	n.a.	2,104	249	11.8%	4.0%	603	1,388	0.7x	5.6x	5.1x	6.5x	6.0x	3.0x			
Rayonier Advanced Materials Inc.	USD	3.40	35%	35%	(62%)	n.a.	1,812	201	11.1%	1.7%	221	996	0.5x	5.0x	4.6x	n.m.	n.m.	3.4x			
Tiniso PLC	USD	12.42	25%	25%	(45%)	6.1%	4,486	300	6.7%	(1.7%)	454	2,766	0.6x	9.2x	6.6x	n.m.	6.9x	7.1x			
Mean			59%	(14%)	3.6%				13.6%	1.4%			0.9x	6.9x	5.8x	14.2x	8.0x	3.2x			
Median			64%	(6%)	3.9%				11.5%	1.2%			0.7x	7.0x	5.3x	9.5x	7.3x	2.7x			

Electronic Chemicals & Materials

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales		EBITDA		CAGR	Sales		Equity Value	Enterprise Value	EV/Sales	EV/EBITDA		Price/Earnings		Net Leverage
		Price as of					2023E	2023E	2023E	2023E		2022E-2024E	2023E				2023E	2024E	2024E		
		31-May-2023																			
Electronic Chemicals																					
Element Solutions Inc	USD	17.93	81%	1%	1.8%	2,452	510	20.8%	0.8%	4,329	6,005	2.4x	11.8x	10.8x	12.9x	11.6x	3.2x				
EnPro Industries, Inc.	USD	101.08	79%	(5%)	n.a.	1,102	254	23.0%	2.7%	2,110	2,564	2.3x	10.1x	9.3x	15.1x	13.6x	1.8x				
Entegris, Inc.	USD	105.25	91%	65%	0.4%	3,612	1,004	27.8%	10.1%	15,935	21,177	5.9x	21.1x	18.1x	42.8x	28.3x	5.2x				
MKS Instruments, Inc.	USD	97.31	78%	17%	0.9%	3,461	950	27.4%	12.8%	6,579	10,710	3.1x	11.3x	11.3x	30.0x	17.6x	4.3x				
Materion Corporation	USD	100.34	83%	16%	n.a.	1,796	221	12.3%	4.3%	2,124	2,552	1.4x	11.6x	10.3x	19.2x	16.8x	1.9x				
Rogers Corporation	USD	157.47	58%	33%	n.a.	n.a.	n.a.	16.4%	3.5%	2,997	3,058	3.1x	19.2x	15.1x	63.5x	31.3x	0.4x				
Merck KGaA	EUR	162.75	80%	(9%)	1.4%	23,717	6,764	2.9%	2.9%	75,750	86,237	3.6x	12.7x	11.7x	17.1x	15.7x	1.3x				
Mean			79%	17%	1.1%			21.3%	5.3%			3.1x	14.0x	12.4x	28.6x	19.3x	2.6x				
Median			80%	16%	1.1%			21.9%	3.5%			3.1x	11.8x	11.3x	19.2x	16.8x	1.9x				

Fertilizers

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales		EBITDA		CAGR	Sales		Equity Value	Enterprise Value	EV/Sales	EV/EBITDA		Price/Earnings		Net Leverage
		Price as of 31-May-2023	Price as of 31-May-2023				2023E	2023E	2023E	2023E		2022E-2024E	2022E-2024E				2023E	2023E	2024E	2023E	
Fertilizers																					
CF Industries Holdings, Inc.	USD	61.51	51%	(27%)	2.6%	7,000	3,163	45.2%	(24.0%)	12,053	12,768	1.8x	4.0x	4.6x	7.0x	8.8x	0.2x				
Mosaic Company	USD	31.96	49%	(24%)	3.3%	14,002	3,255	23.2%	(18.6%)	10,614	14,526	1.0x	4.5x	4.9x	6.3x	7.0x	1.2x				
Nutrien Ltd.	CAD	71.52	54%	(25%)	3.9%	29,344	7,242	24.7%	(11.2%)	26,455	35,438	1.2x	4.9x	5.3x	7.9x	8.7x	1.2x				
OCI NV	EUR	20.79	58%	(30%)	9.0%	5,879	1,634	27.8%	(20.6%)	4,695	5,892	1.0x	3.6x	3.1x	12.6x	8.2x	0.7x				
Yara International ASA	NOK	414.20	82%	(1%)	9.4%	17,842	2,827	15.8%	(11.1%)	9,469	8,918	0.5x	3.2x	3.3x	9.1x	9.0x	(0.2x)				
Mean			59%	(21%)	5.6%			27.3%	(17.1%)				1.1x	4.0x	4.2x	8.6x	8.4x	0.6x			
Median			54%	(25%)	3.9%			24.7%	(18.6%)				1.0x	4.0x	4.6x	7.9x	8.7x	0.7x			

Ingredients

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales		EBITDA		CAGR 2022E-2024E	Sales		Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA		Price/Earnings		Net Leverage 2023E
		Price as of 31-May-2023	2023E				2023E	2023E	2022E-2024E	2023E		2024E	2023E				2024E				
Diversified Ingredients																					
Archer-Daniels-Midland Company	USD	70.65	72%	(23%)	2.5%	100,136	6,090	6.1%	0.1%	44,329	55,110	0.6x	9.0x	9.9x	11.7x	12.4x	1.7x				
Bunge Limited	USD	92.64	78%	(6%)	2.8%	64,000	3,008	4.7%	(1.6%)	14,193	19,064	0.3x	6.3x	6.6x	8.0x	8.2x	1.6x				
Darling Ingredients Inc	USD	63.38	72%	2%	n.a.	7,267	1,892	26.0%	7.1%	10,307	14,892	2.0x	7.9x	7.3x	11.3x	10.1x	2.4x				
Ingredion Incorporated	USD	104.60	92%	8%	2.8%	8,646	1,208	14.0%	6.9%	7,063	9,457	1.1x	7.8x	7.3x	11.5x	10.7x	2.0x				
Tate & Lyle PLC	GBP	7.86	94%	10%	2.5%	2,216	397	17.9%	6.6%	3,979	4,301	1.9x	10.8x	10.4x	14.6x	13.6x	0.8x				
Mean			82%	(2%)	2.6%			13.7%	3.8%			1.2x	8.4x	8.3x	11.4x	11.0x	1.7x				
Median			78%	2%	2.7%			14.0%	6.6%			1.1x	7.9x	7.3x	11.5x	10.7x	1.7x				
Specialty Ingredients																					
Ashland Inc.	USD	84.88	74%	(20%)	1.7%	2,423	602	24.9%	3.7%	4,551	5,230	2.2x	8.7x	8.0x	13.8x	12.8x	1.0x				
Koninklijke DSM N.V.	EUR	114.05	70%	(0%)	2.3%	9,116	1,413	15.5%	3.3%	NA	NA	n.m.	n.m.	n.m.	#N/A	#N/A	0.1x				
International Flavors & Fragrances Inc.	USD	77.29	57%	(25%)	4.2%	12,302	2,324	18.9%	1.4%	19,792	30,212	2.5x	13.0x	11.6x	16.8x	13.8x	4.5x				
Givaudan SA	CHF	2,996.00	82%	7%	2.3%	7,928	1,661	21.0%	3.1%	30,332	35,066	4.4x	21.1x	19.4x	29.1x	26.1x	2.8x				
Kerry Group Plc Class A	EUR	91.18	85%	9%	1.3%	9,105	1,295	14.2%	0.2%	17,356	18,866	2.1x	14.6x	13.3x	20.9x	18.6x	1.2x				
Sensient Technologies Corporation	USD	72.03	81%	0%	2.3%	1,515	271	17.9%	5.4%	3,064	3,745	2.5x	13.8x	13.1x	21.6x	18.8x	2.5x				
Symrise AG	EUR	99.98	87%	(0%)	1.1%	5,229	1,044	20.0%	6.1%	14,898	17,724	3.4x	17.0x	15.0x	29.9x	26.4x	2.2x				
Mean			76%	(4%)	2.2%			18.9%	3.3%			2.8x	14.7x	13.4x	#N/A	#N/A	2.0x				
Median			81%	(0%)	2.3%			18.9%	3.3%			2.5x	14.2x	13.2x	#N/A	#N/A	2.2x				
Bio-Ingredients																					
Chr. Hansen Holding A/S	DKK	505.20	84%	4%	1.6%	1,459	515	35.3%	7.4%	9,555	9,600	6.6x	18.6x	17.2x	34.6x	30.8x	0.1x				
Novozymes A/S Class B	DKK	335.70	71%	(2%)	1.8%	2,607	879	33.7%	4.3%	13,291	14,257	5.5x	16.2x	14.8x	27.3x	25.0x	1.1x				
Mean			77%	1%	1.7%			34.5%	5.8%			6.0x	17.4x	16.0x	30.9x	27.9x	0.6x				
Median			77%	1%	1.7%			34.5%	5.8%			6.0x	17.4x	16.0x	30.9x	27.9x	0.6x				

Lithium

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	Sales		EBITDA		CAGR	Sales		Equity Value	Enterprise Value	EV/Sales	EV/EBITDA		Price/Earnings		Net Leverage
		Price as of 31-May-2023	Price as of 31-May-2023				2023E	2023E	2023E	2022E-2024E		2023E	2024E				2023E	2024E			
Lithium																					
Albemarle Corporation	USD	193.53	58%	(7%)	0.8%	10,050	3,606	35.9%	18.3%	22,842	24,666	2.5x	6.8x	7.0x	8.8x	9.9x	0.5x				
Lithium Americas Corp.	CAD	27.42	64%	12%	n.a.	264	180	68.0%	n.m.	3,286	3,101	11.7x	17.3x	12.9x	n.m.	28.8x	(1.0x)				
Livert Corporation	USD	23.05	63%	19%	n.a.	1,087	572	52.6%	27.5%	4,826	4,883	4.5x	8.5x	7.2x	11.5x	10.2x	0.1x				
Lithium Power International Ltd.	AUD	0.31	41%	(27%)	n.a.	n.a.	n.a.	n.m.	n.m.	126	122	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.				
Piedmont Lithium Inc	USD	54.77	71%	28%	n.a.	188	196	n.m.	n.m.	1,060	960	5.1x	4.9x	2.8x	9.5x	2.5x	(0.5x)				
Mean			60%	5%	0.8%			52.2%	22.9%			5.9x	9.4x	7.5x	9.9x	12.9x	(0.2x)				
Median			63%	12%	0.8%			52.6%	22.9%			4.8x	7.7x	7.1x	9.5x	10.1x	(0.2x)				

Advanced Materials and Chemicals

Trading Comparables

Multi-Industrial

Company	Local Currency	Local		% of 52 week high	Price Return YTD	Dividend Yield	EBITDA			Sales		Equity Value	Enterprise Value	EV/Sales 2023E	EV/EBITDA		Price/Earnings		Net Leverage 2023E
		Price as of 31-May-2023					Sales 2023E	EBITDA 2023E	Margin 2023E	CAGR 2022E-2024E	2023E				2024E	2023E	2024E		
Multi Industrial																			
3M Company	USD	93.31	61%	(20%)	6.6%	31,796	7,711	24.3%	(2.0%)	51,757	63,342	2.0x	8.2x	7.6x	11.0x	9.8x	1.5x		
DuPont de Nemours, Inc.	USD	67.19	86%	0%	2.1%	12,451	3,049	24.5%	0.4%	30,988	34,347	2.8x	11.3x	10.2x	18.7x	16.6x	1.1x		
Honeywell International Inc.	USD	191.60	87%	(9%)	2.2%	36,978	9,523	25.8%	4.8%	128,719	137,992	3.7x	14.5x	13.5x	21.0x	19.5x	1.5x		
Illinois Tool Works Inc.	USD	218.73	86%	1%	2.4%	16,420	4,512	27.5%	3.3%	66,807	74,954	4.6x	16.6x	15.8x	22.8x	21.7x	1.8x		
Merck KGaA	EUR	162.75	80%	(9%)	1.4%	23,717	6,764	28.5%	2.9%	75,750	86,237	3.6x	12.7x	11.7x	17.1x	15.7x	1.3x		
Parker-Hannifin Corporation	USD	320.44	88%	13%	1.8%	19,410	4,380	22.6%	8.4%	41,964	49,524	2.6x	11.3x	10.5x	15.0x	13.9x	1.6x		
Mean			81%	(4%)	2.7%			25.5%	3.0%			3.2x	12.4x	11.6x	17.6x	16.2x	1.5x		
Median			86%	(5%)	2.2%			25.1%	3.1%			3.2x	12.0x	11.1x	17.9x	16.1x	1.5x		

Specialty

Company	Local Currency	Local				Dividend Yield	EBITDA			Sales			EV/Sales	EV/EBITDA		Price/Earnings		Net Leverage
		Price as of	% of	Price Return	Sales		EBITDA	Margin	CAGR	Equity	Enterprise	Value		2023E	2024E	2023E	2024E	
		31-May-2023	52 week high	YTD	2023E		2023E	2023E	2022E-2024E	Value	Value	2023E		2024E	2023E	2024E		
Specialty																		
Avient Corporation	USD	36.50	70%	11%	2.6%	3,403	530	15.6%	3.7%	3,346	4,949	1.5x	9.3x	8.3x	20.4x	15.8x	3.0x	
Balchem Corp	USD	123.63	86%	2%	n.a.	992	232	23.4%	5.4%	4,016	4,382	4.4x	18.9x	18.1x	29.8x	26.9x	1.6x	
Ecobab Inc.	USD	165.05	92%	14%	1.3%	15,321	2,991	19.5%	6.5%	47,230	56,141	3.7x	18.8x	17.0x	33.3x	28.9x	2.8x	
Ecovyst Inc.	USD	10.04	85%	19%	n.a.	760	288	38.0%	(1.2%)	1,246	2,025	2.7x	7.0x	6.5x	10.6x	9.7x	2.7x	
Elementis plc	GBP	1.07	82%	(10%)	2.8%	752	151	20.1%	0.6%	801	1,334	1.8x	8.8x	8.2x	12.5x	10.7x	3.5x	
EMS-CHEMIE HOLDING AG	CHF	705.00	85%	13%	3.0%	2,623	717	27.3%	1.7%	18,038	17,781	6.8x	24.8x	23.0x	30.6x	28.3x	(0.3x)	
Hexcel Corporation	USD	68.99	91%	20%	0.7%	1,814	380	20.9%	12.4%	5,916	6,542	3.6x	17.2x	14.9x	36.1x	27.7x	1.6x	
Innospec Inc.	USD	92.36	80%	(8%)	1.5%	2,036	235	11.5%	4.0%	2,360	2,177	1.1x	9.3x	7.9x	15.9x	13.3x	(0.6x)	
Koppers Holdings Inc.	USD	28.96	75%	3%	n.a.	2,104	249	11.8%	4.0%	636	1,421	0.7x	5.7x	5.3x	6.8x	6.4x	3.0x	
Minerals Technologies Inc.	USD	55.61	76%	(7%)	0.4%	2,240	369	16.5%	4.2%	1,820	2,696	1.2x	7.3x	6.7x	11.4x	9.9x	2.2x	
NewMarket Corporation	USD	389.82	96%	27%	n.a.	n.a.	n.a.	n.a.	n.a.	3,766	4,408	n.m.	n.m.	n.m.	n.m.	n.m.	n.m.	
Ingevity Corporation	USD	47.19	52%	(30%)	n.a.	1,835	469	25.6%	7.8%	1,738	3,078	1.7x	6.6x	6.0x	8.5x	7.1x	2.8x	
Perimeter Solutions SA	USD	5.42	43%	(39%)	n.a.	454	167	36.8%	20.1%	851	1,399	3.1x	8.4x	7.1x	24.1x	17.5x	3.3x	
Stepan Co	USD	91.95	79%	(12%)	1.6%	2,714	266	9.8%	(0.8%)	2,068	2,598	1.0x	9.8x	7.9x	18.6x	13.7x	2.0x	
Mean			78%	0%	1.7%			21.3%	5.3%			2.5x	11.7x	10.5x	19.9x	16.6x	2.1x	
Median			81%	3%	1.6%			20.1%	4.0%			1.8x	9.3x	7.9x	18.6x	13.7x	2.7x	

Synthetic Biology

Company	Local Currency	Local	Price as of	% of	Price Return	Dividend	Sales	EBITDA	EBITDA	Sales	Equity	Enterprise	EV/Sales	EV/EBITDA	Price/Earnings	Net Leverage
		31-May-2023	52 week high	YTD	Yield	2023E	2023E	Margin	CAGR	Value	Value	2023E	2023E	2024E	2023E	2023E
SynBio																
Ginkgo Bioworks Holdings, Inc. Class A	USD	1.58	32%	2%	n.a.	297	(283)	n.m.	(3.3%)	3,616	2,292	7.7x	n.m.	n.m.	n.m.	n.m.
Amyris, Inc.	USD	0.84	17%	(51%)	n.a.	529	(156)	n.m.	34.6%	325	491	0.9x	n.m.	n.m.	n.m.	n.m.
LanzaTech Global, Inc.	USD	2.94	27%	(71%)	n.a.	88	(74)	n.m.	116.6%	601	601	6.8x	n.m.	n.m.	n.m.	n.m.
Mean			26%	(40%)	NA			NA	49.3%				5.1x	NA	NA	NA
Median			27%	(51%)	NA			NA	34.6%				6.8x	NA	NA	NA

Global Experts in Sustainable Technology and Infrastructure

Nomura Greentech Offices



Nomura Greentech Transactions

Mergers & Acquisitions

- Corporate sales
- Acquisitions
- Minority investments
- Joint ventures
- Fairness opinions

\$144bn

Asset Transactions

- Acquisitions
- Divestitures
- Passive equity
- Development capital formation

**Operating
28GW**

**Development
196GW**

Capital Raising

- Equity private placements
- Debt private placements
- Project finance advisory
- Bookrun public equity offering

\$58bn

Strategic Advisory

- Strategic consulting
- IPO preparation
- Financial restructuring
- Specialized opinions
- Independent capital markets advice

>35 assignments

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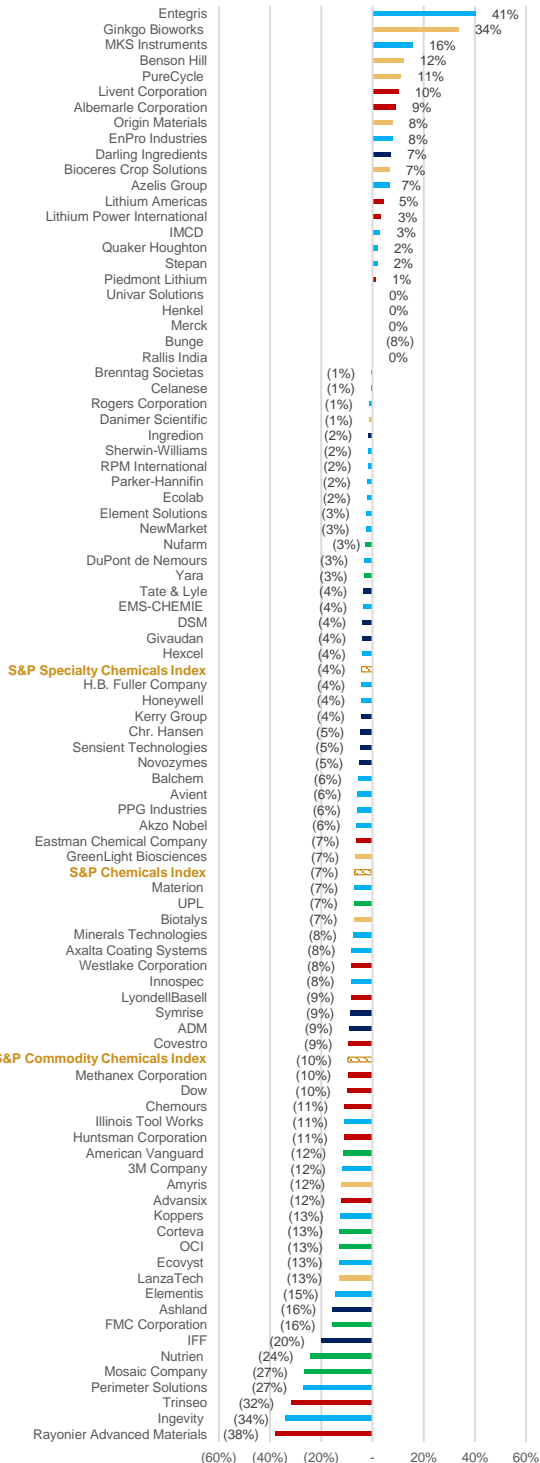


Appendix

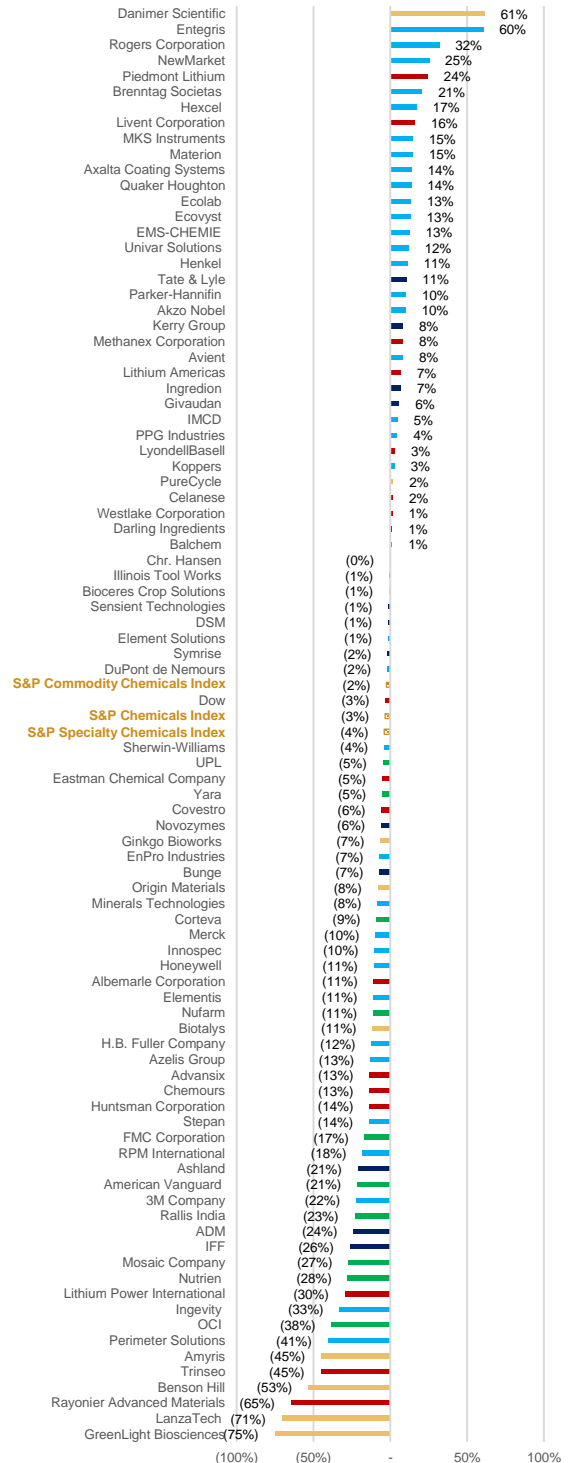
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Share Price Performance

1 Month



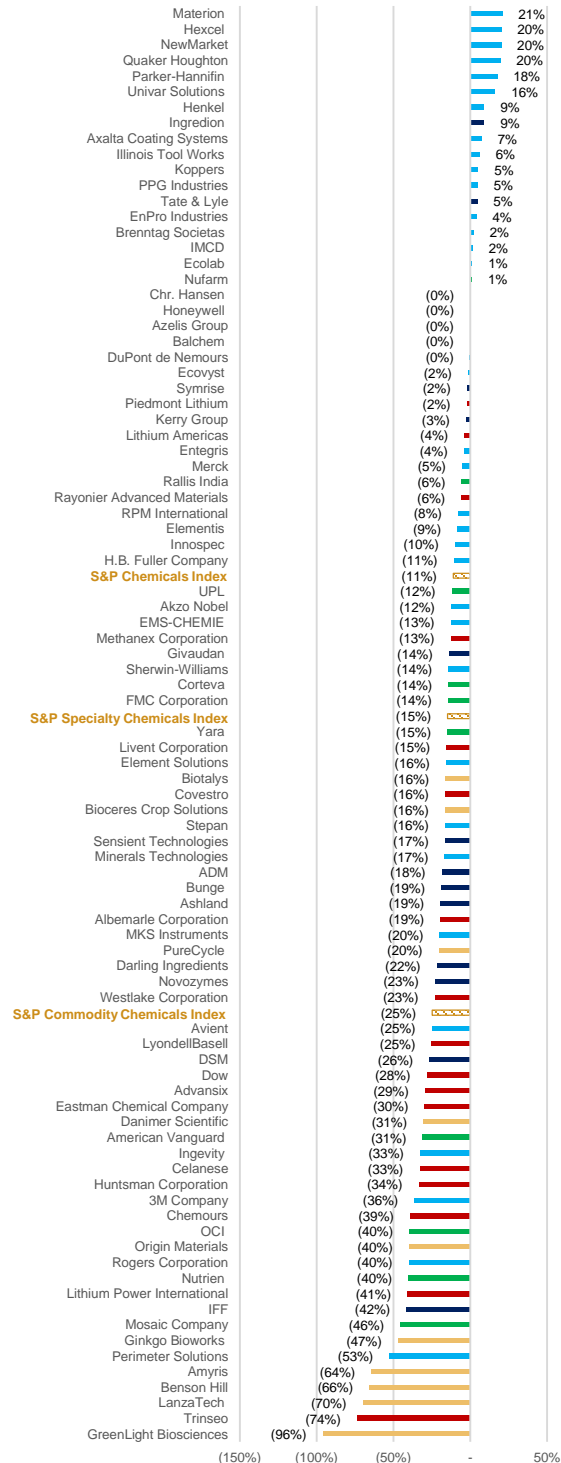
Year-to-Date



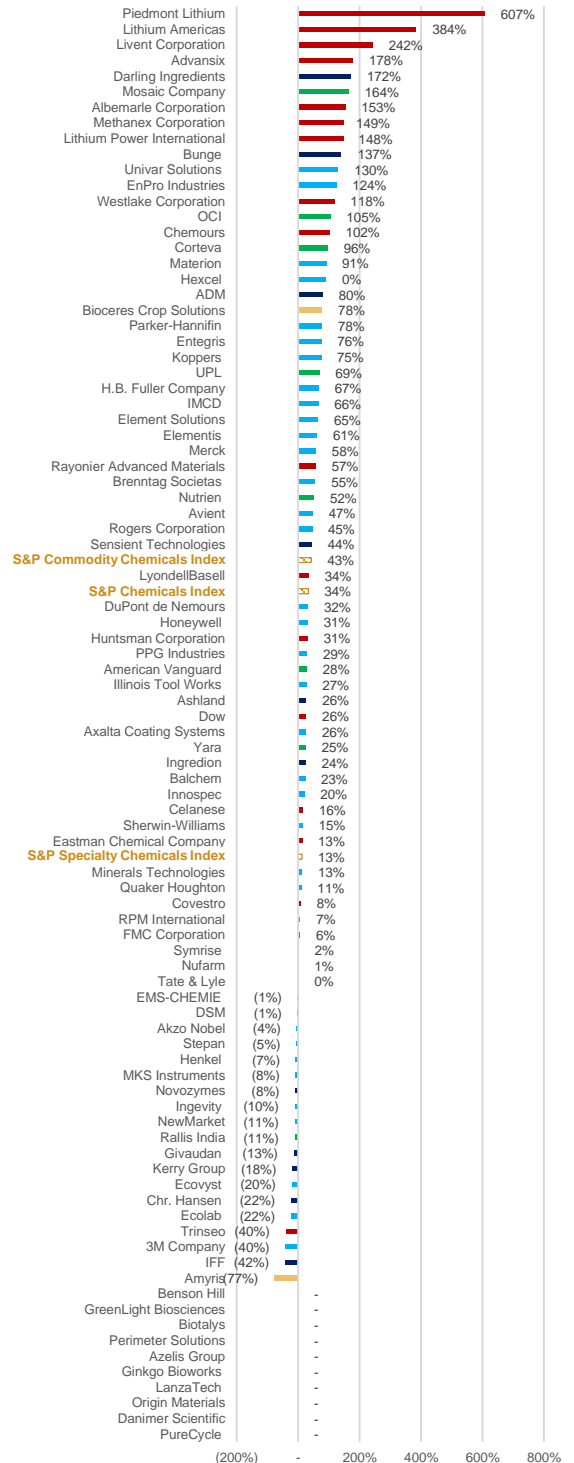
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Share Price Performance

1 Year



3 Years



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