

High Grade Basic Materials Weekly

Week ended February 9, 2024

Industry Overview

HG Basic Materials spreads finished 7 bps tighter w-o-w

HG Basic Materials spreads finished 7 bps tighter w-o-w, outperforming the Corp Index (-5 bps, OAS basis). All subsectors outperformed or performed in line. Notably, FMC Corp (FMC, NR) underperformed and closed 13-16 bps wider w-o-w.

HG Basic Materials outperforms the market

HG Basic Materials (+51 bps of excess returns) outperformed the Corp Index (+33 bps) w-o-w. All subsectors outperformed or performed in line.

OC acquires DOOR + strategic review; FMC & DD earnings

This week, we note Owens Corning's (OC, NR) ~\$3.9b acquisition of Masonite (DOOR, NR) and announced strategic review of its Global Glass Reinforcements (GR) business. We also discuss earnings from FMC Corporation (FMC, NR) and DuPont (DD, NR). On Friday, OC announced plans to acquire DOOR for ~\$3.9b, with expected close in mid-2024. According to management, the pro-forma (PF) business should generate EBITDA of ~\$2.9b (~\$2.3b OC standalone). OC plans to finance half the purchase price with new permanent debt. Management sees leverage rising to 2.0-3.0x post close (0.8x as of 3Q23) but returning to ~2.0x by year-end 2024. OC remains committed to an IG balance sheet and a long-term net leverage target of ~2.0x. Also on Friday, OC announced a strategic review of its GR business, consistent with its strategy to focus on construction and building materials. The GR business has annual revenues of ~\$1.3b. OC did not provide a timetable for completion. Away from OC, on Monday, FMC reported EBITDA modestly below consensus and lowered FY24 sales / EBITDA guidance to \$4,500-4,700mm (previously \$4,650-4,850mm, consensus of \$4,682mm) and \$900-1,050mm (previously \$1,025-1,125mm, consensus of \$1,074mm), respectively. FMC plans to reach ~2.0x net leverage in 2025 (unchanged) and expects to use free cash flow (post dividends) for debt paydown in 2024. Separately, DD reported EBITDA roughly in line with consensus and maintained its 1Q24 guidance. The company guided FY24 EBITDA to ~\$2.8-3.0b (consensus of \$2,951mm), supported by an expected return to y-o-y sales growth in 2H24. DD maintained its 2.0x long-term net leverage target (currently views itself at 2.1x as of year-end 2023) and noted its opportunistic M&A focus, particularly for bolt-on transactions. Away from earnings, we add coverage of the Dow Chemical (DOW, UW) 5.15% notes due 2034 and 5.60% notes due 2054 with an UW, which is in line with our current issuer-level recommendation.

Metals prices weaker w/w; China economic data disappoints

Metals prices were largely weaker w-o-w as China economic data continued to disappoint. For January, China CPI came in much weaker than expected (-0.8% y/y versus consensus of -0.5%), and PPI remained negative for the 16th consecutive month. Our [China economics team](#) notes that subdued core inflation (+0.4% y/y) underscores continued fragile consumption and investment demand. Going forward, Helen Qiao, our China economist, thinks that CPI could slowly recover on a more favorable y/y comp. The team maintained its outlook for continued support from government policies in 2024.

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Timestamp: 09 February 2024 04:41PM EST

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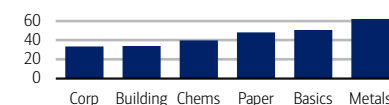
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Exhibit 1: WTD Excess Returns (bps)

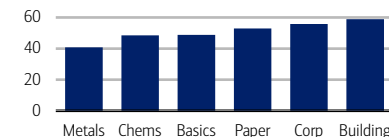
Basic materials outperformed this week



Source: BofA Global Research, ICE Data Indices, LLC
BofA GLOBAL RESEARCH

Exhibit 2: YTD Excess Return (bps)

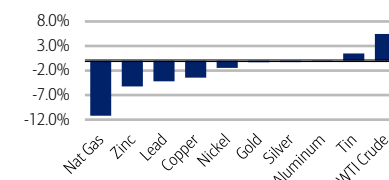
Basic materials underperformed YTD



Source: BofA Global Research, ICE Data Indices, LLC
BofA GLOBAL RESEARCH

Exhibit 3: W-o-w Commodity Performance

WTI Crude gained the most w-o-w at 5.5%; while Nat Gas gained the least at -11.2%



Source: BofA Global Research, Bloomberg
BofA GLOBAL RESEARCH

LTM: last 12 months

NR: not rated/not covered

OAS: option-adjusted spread

LW: Underweight

News & Views

OC acquires Masonite for ~\$3.9b; announced strategic review of its Glass Reinforcements business

On Friday morning, Owens Corning (OC, NR) announced plans to acquire Masonite (DOOR, NR) for ~\$3.9b (\$133/share). In a separate release, OC also announced a strategic review of its Global Glass Reinforcements (GR) business.

DOOR acquisition

OC announced plans to acquire DOOR for ~\$3.9b (\$133/share). The purchase price represents a ~38% premium to DOOR's closing price on 2/8/24 and implies a ~8.6x company expected FY23 EBITDA multiple (6.8x, including synergies of \$125mm). The transaction is expected to close in mid-2024, subject to DOOR shareholder approval.

Financing and capital allocation

OC expects to finance the DOOR acquisition with cash on hand and committed debt financing of \$3b. Ultimately, OC plans to finance roughly half the purchase price with new permanent debt and expects to retire most of its pre-payable bank debt and pay off its \$400mm December 2024 notes by year-end 2024. Management sees net leverage rising to within 2.0-3.0x at close (0.8x as of 3Q23), with leverage returning to ~2.0x by year-end 2024. The company remains committed to an investment grade balance sheet and net leverage of ~2.0x over the long term. In addition, OC plans to continue returning ~50% of free cash flow to shareholders over time.

DOOR overview

DOOR is a leading global provider of interior and exterior door systems. DOOR expects FY23 EBITDA of \$454mm and operates in the US (~80% of net sales), Canada (~10%), and U.K. (~10%). The company's primary end markets are residential repair and remodel (55%) and residential new construction (~45%).

Pro-forma business

OC expects the pro-forma (PF) business to generate annual revenues of ~\$12.6b (\$9.7b OC standalone LTM as of 3Q23), and EBITDA of ~\$2.9b (\$2.3b OC standalone) includes ~\$125mm of annual run-rate cost synergies. OC sees low double-digit % accretion to free cash flow after financing costs by year-end 2025.

GR business strategic review

OC announced a strategic review of its Global Glass Reinforcements (GR) business. This decision is consistent with OC's strategy to focus on building and construction materials. A range of options are under review, including a possible sale, spinoff, or other strategic options. OC did not provide a timetable for completion, and there can be no assurances that the review will result in any transaction / outcome.

GR business overview

The GR business generates annual revenues of ~\$1.3b and operates in 11 countries. The business manufactures, fabricates, and sells glass fiber reinforcements for applications in wind energy, infrastructure, industrial, transportation, and consumer markets. Based on OC's Composite segment's LTM EBITDA margins of ~19% and an enterprise value (EV)/EBITDA multiple of ~7.0-7.5x, the GR business could be worth ~\$1.7-1.9b given annual sales of ~\$1,300mm.

FMC 4Q23 EBITDA modestly below consensus; cuts FY24 EBITDA outlook

On Monday, FMC released 4Q23 adj earnings of \$1.07/share, modestly below Bloomberg consensus estimates of \$1.09/share. Adj EBITDA of \$254mm was also a touch below consensus estimates of \$268mm. The miss was due to softness across the business.

Cash flow and credit metrics

Cash from operations of \$232mm covered capex of \$25mm and dividends of ~\$75mm. Additional cash flow information was not available in the earnings release. Credit stats softened q-o-q due to lower LTM EBITDA: adj. total debt/LTM adj. EBITDA = 4.2x (3.6x in 3Q23), adj. net debt/LTM adj. EBITDA = 3.8x (3.3x) and LTM adj. EBITDA/LTM interest expense = 4.0x (5.1x).

1Q24 guidance

In 1Q24, FMC expect sales of \$925-1,075mm (consensus of \$1,161mm), adj EBITDA of \$135-165mm (consensus of \$263mm), and adj earnings of \$0.21-0.43/share (consensus of \$1.01/share).

2024 guidance

FMC lowered its outlook for FY24 sales and EBITDA to \$4,500-4,700mm (from \$4,650-4,850mm, consensus of \$4,682mm) and to \$900-1,050mm (from \$1,025-1,125mm, consensus of \$1,074mm), respectively. The company sees FY24 adj earnings of \$3.23-4.41/share (consensus of \$4.38/share). Furthermore, FMC provided the following drivers for FY24 EBITDA using upside, mid-point, and downside scenarios:

- **Upside:** EBITDA of \$1,050mm driven by (i) market growth of mid- to high-single-digit % y-o-y in 2H24; (ii) stronger-than-expected new product introduction (NPI) growth; (iii) high-end of restructuring benefits realized (outlook for \$50-75mm in FY24); (iv) FX tailwinds.
- **Midpoint:** EBITDA of \$975mm driven by (i) channel destocking mostly complete by 1H24; (ii) market flat to down low-single digit % y-o-y in 1H24 and low y-o-y growth in 2H24; (iii) modest price headwinds in 1H24; (iv) flat raw material costs y-o-y; (v) midpoint of restructuring benefits realized; (vi) minor FX headwinds.
- **Downside:** EBITDA of \$900mm driven by (i) market decline of mid-single-digit % y-o-y; (ii) raw material inflation; (iii) moderate price headwinds (full year); (iv) FX headwinds.

Capital allocation

Management expects free cash flow of \$400-600mm (>100% conversion rate at the midpoint) in FY24, with \$290mm earmarked for dividends and the balance for debt paydown. The company sees FY24 capex of \$95-105mm (previously \$125mm, consensus of \$148mm). Away from cash flow, FMC maintained plans to reach its ~2.0x net leverage target in 2025, while it currently sees itself at 3.7x as of year-end 2023.

Asset sales

FMC affirmed plans to sell its Global Specialty Solutions business, which generates ~\$150mm in revenues annually and operates primarily in the US. The sale could occur in 2H24. Management noted that any potential asset sale proceeds would be used for debt reduction.

Restructuring actions

FMC maintained its outlook to realize \$50-75mm of EBITDA savings in 2024 and \$150mm (run rate) by the end of 2025 (unchanged) connected to its restructuring program.



2026 goals

The company maintained its FY26 / long-term outlook for sales of \$5.5-6.0b (FY26 consensus of \$5,364mm), adj EBITDA of \$1.3-1.5b (FY26 consensus of \$1,317mm), return on invested capital of a mid-teens %, and free cash flow conversion of >70%.

Segment Overview

- **Latin America:** 4Q23 revenue of \$433mm was down 41% y-o-y (excluding FX impacts) due to lower volumes, drought conditions in Brazil, and low-double-digit % price decreases, which offset strong NPI growth.
- **Asia:** 4Q23 revenue of \$278mm was unchanged y-o-y as growth in fungicides and biologicals offset declines in herbicides and insecticides. Branded diamides sales were in line y-o-y, while channel inventories remained elevated in India.
- **North America:** 4Q23 revenue of \$275mm was down 37% y-o-y due to lower volumes (primarily in herbicides), which offset in-line prices, NPI outperformance, and strong growth in branded diamides.
- **EMEA:** 4Q23 revenue of \$160mm was down 22% y-o-y (ex. FX impacts) due to lower volumes in herbicides, which offset low- to mid-single-digit % price increases and strong branded diamides growth.

DD 4Q23 operating EBITDA roughly in line; guides FY24 EBITDA in line with consensus

On Tuesday morning, DuPont (DD, NR) reported 4Q23 adj earnings of \$0.87/share, above Bloomberg consensus estimates of \$0.85/share. Operating EBITDA of \$715mm was roughly in line with consensus of \$724mm. We note that DD pre-released 4Q23 EBITDA of \$715mm in late January, which was below consensus of \$745mm at the time.

Cash flow and credit metrics

Cash from operations of \$646mm (including a \$210mm working capital inflow) covered capex of \$145mm and dividends of \$156mm. There were no share repurchases during the quarter, though DD did buy back 6.7 million shares in 1Q24 thus far (~\$480mm based on the average January closing price of ~\$72/share). Credit stats largely improved q-o-q as a higher cash balance led to lower net debt: adj. total debt/LTM adj. EBITDA = 3.1x (3.1x as of 3Q23), adj. net debt/LTM adj. EBITDA = 2.3x (2.7x), and LTM adj. EBITDA/LTM interest = 7.2x (7.1x).

1Q24 guidance

In 1Q24, DD expects net sales of ~\$2.8b (unchanged, consensus of \$2,848mm), operating EBITDA of ~\$610mm (unchanged, consensus of \$609mm), and adj earnings of \$0.63-0.65/share (consensus of \$0.68/share). Importantly, management noted seeing positive order growth in January (following declines into year-end 2023), which gives DD confidence about a recovery in sales in 2H24.

2Q24 guidance

In 2Q24, DD expects sequentially higher sales (consensus of +7% q-o-q) and ~10% growth in operating EBITDA (consensus of +11% q-o-q) driven by improved inventory destocking (varying by end market), seasonality factors, and cost savings.

2024 guidance

DD sees FY24 net sales of ~\$11.9-12.3b (consensus of \$12,310mm), operating EBITDA of ~\$2.8-3.0b (consensus of \$2,951mm), and adj earnings of \$3.25-3.65/share (consensus of \$3.53/share). The company expects a return to y-o-y sales growth in 2H24 driven by a continued stabilization / recovery in electronics demand and improved

channel inventory destocking. Separately, DD guided FY24 capex to 5% of net sales (unchanged, consensus implies ~5% of net sales).

Capital allocation

DD announced a new \$1b share repurchase program, which includes a \$500mm accelerated share repurchase portion (to be completed immediately). Management plans to exhaust the full program by year-end 2024. DD also raised its quarterly dividend by 6% to \$0.38/share. Away from shareholder returns, DD maintained its long-term 2.0x net leverage target and currently views itself at 2.1x as of year-end 2023. Regarding M&A, DD affirmed its focus on opportunistic bolt-on transactions.

Segment results

- **Electronics & Industrial (E&I):** 4Q23 operating EBITDA was \$378mm, down 8% y-o-y, due to lower volumes and reduced production rates, partly offset by Spectrum earnings.
- **Water & Protection (W&P):** 4Q23 operating EBITDA was \$360mm, down 15% y-o-y, due to lower volumes and reduction production rates, partly offset by lower input costs and discrete, one-off items.

New Issue Commentary

DOW priced a \$1.25b green debt offering across two parts

On Wednesday, Dow Chemical (DOW, UW) priced \$1.25b of green senior unsecured notes across two tranches, including notes due February 15, 2034 (\$600mm) and February 15, 2054 (\$650mm). The notes priced at a spread over the relevant treasury benchmark of +100 bps (2034s) and +130 bps (2054s). Proceeds will be used to finance or refinance, in whole or in part, existing and/or future eligible green projects. Pending full allocation to eligible projects, the company may use proceeds in its normal treasury process.

APD priced a \$2.5b debt offering across three parts

On Tuesday, Air Products (APD, NR) priced \$2.5b of senior unsecured notes across three tranches, including notes due February 8, 2029 (\$750mm), February 8, 2031 (\$600mm), and February 8, 2034 (\$1,150mm). The notes priced at a spread over the relevant treasury benchmark of +60 bps (2029s), +70 bps (2031s), and +80 bps (2034s). Proceeds will be used to finance or refinance, in whole or in part, one or more eligible projects. Pending full allocation to eligible projects, proceeds may also be used to hold and/or invest in APD's treasury portfolio or to repay outstanding indebtedness.

BofA Recommendations

Exhibit 4: BofA Global Research Recommendations

HG Basic Materials recommendations include 1 Overweights and 2 Underweights

Chemicals	Rating	Metals, Mining, & Steel	Rating
Celanese Corporation	OW	Freeport-McMoRan Inc.	MW
Dow Inc	UW	Nucor Corporation	MW
Int'l Flavors & Fragrances	MW, OW 2030s	Steel Dynamics, Inc.	MW, OW 2050s
LyondellBasell Industries	MW	Teck Resources Ltd	MW
Nutrien Ltd	MW		
Sherwin-Williams	UW		

Source: BofA Global Research

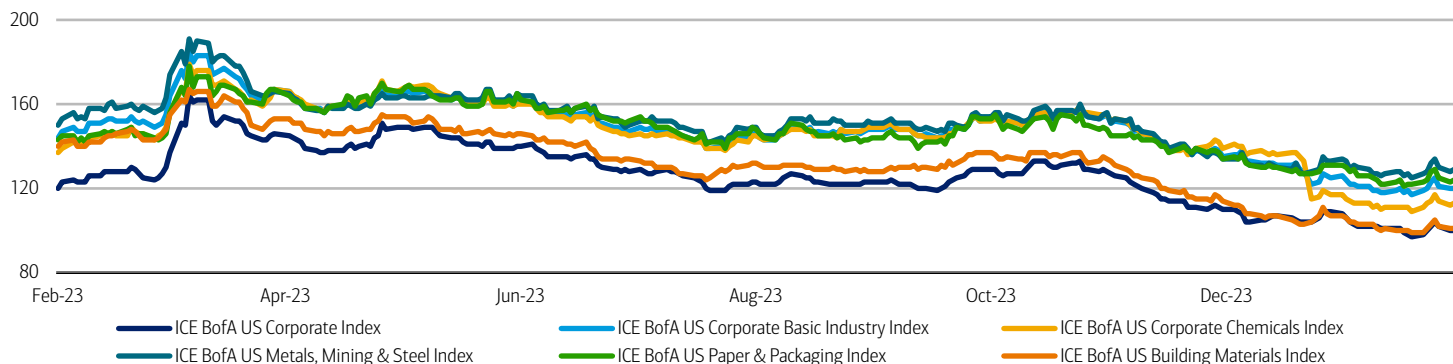
Note: UW = Underweight, MW = Marketweight, OW = Overweight, RSTR = Restricted. Please see credit opinion key at the end of this report

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HG Basic Materials Spreads

Exhibit 5: Option Adjusted Spread: HG Corporate Index and HG Basic Materials (& subsectors) Indices (LTM)

The Option Adjusted Spread for the HG Basic Materials Index has traded wide of the HG Corporate Index for the LTM



Source: BofA Global Research, ICE Data Indices, LLC

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Exhibit 6: HG Chemicals Cash Spreads (Bid)

In the HG Chemicals subsector, spreads were mixed w-o-w.

Issuer Entity		Coupon	Maturity	Outstanding (\$mm)	MDY/S&P	Bid (bps)	Z-Spread	G-Spread	Price	1 wk. change	6-mo tightts	6-mo wides	8-wk avg. spread (bps)
ALB	Albemarle Corp	5.050	6/1/2032	600	Baa3 / BBB	166	200	167	94.78	4	153	215	165
ALB	Albemarle Corp	5.650	6/1/2052	450	Baa3 / BBB	201	266	201	90.27	0	201	258	212
APD	Air Products and Chemicals	4.850	2/8/2034	1,150	A2 / A	78	113	79	99.05	N.A.	78	78	78
APD	Air Products and Chemicals	2.800	5/15/2050	950	A2 / A	76	142	74	66.40	2	62	88	70
CE	Celanese US Holdings LLC	6.700	11/15/2033	1,000	Baa3 / BBB-	177	211	178	105.30	(4)	163	259	174
CF	CF Industries Inc	5.375	3/15/2044	750	Baa3 / BBB	142	206	142	93.87	1	138	200	148
CTVA	Corteva, Inc	4.800	5/15/2033	600	A3 / A-	82	117	83	98.44	(1)	75	126	79
DD	DuPont de Nemours Inc	5.419	11/15/2048	2,150	Baa1 / BBB+	113	174	109	98.67	(11)	96	160	109
DOW	Dow Chemical Co/The	5.150	2/15/2034	600	Baa1 / BBB	106	141	107	99.22	N.A.	106	106	106
DOW	Dow Chemical Co/The	5.600	2/15/2054	650	Baa1 / BBB	133	201	135	98.32	N.A.	133	133	133
ECL	Ecolab Inc	2.125	2/1/2032	650	A3 / A-	62	98	63	82.40	(3)	53	92	60
ECL	Ecolab Inc	2.700	12/15/2051	850	A3 / A-	75	144	74	64.11	(1)	69	107	74
EMN	Eastman Chemical Co	5.750	3/8/2033	500	Baa2 / BBB	143	177	144	100.89	1	135	197	139
EMN	Eastman Chemical Co	4.650	10/15/2044	900	Baa2 / BBB	143	208	144	85.07	(1)	138	192	144
FMC	FMC Corp	5.650	5/18/2033	500	Baa2 / BBB-	198	233	199	96.35	16	179	257	188
FMC	FMC Corp	6.375	5/18/2053	500	Baa2 / BBB-	221	286	222	97.12	13	205	271	215
HUN	Huntsman International LLC	2.950	6/15/2031	400	Baa3 / BBB-	175	210	176	82.41	0	165	228	170
IFF	International Flavors and Fragrances Inc	3.468	12/1/2050	1,500	Baa3 / BBB-	165	231	163	66.08	(3)	164	234	171
LIN	Linde Inc/CT	2.000	8/10/2050	300	A2 / A	65	133	63	55.84	0	62	100	65
LYB	LYB International Finance III LLC	5.625	5/15/2033	500	Baa2 / BBB	116	151	117	101.93	(5)	110	175	115
LYB	LYB International Finance III LLC	3.625	4/1/2051	1,000	Baa2 / BBB	147	213	146	69.84	(2)	136	197	148
MOS	Mosaic Co	5.625	11/15/2043	600	Baa2 / BBB	151	215	151	95.80	(3)	150	197	157
NTRCN	Nutrien Ltd	5.800	3/27/2053	750	Baa2 / BBB	136	202	136	100.73	5	122	187	131
RPM	RPM International Inc	2.950	1/15/2032	300	Baa3 / BBB	124	159	125	84.19	(1)	119	201	135
RPM	RPM International Inc	4.250	1/15/2048	300	Baa3 / BBB	143	204	138	79.89	0	143	207	150
SHW	Sherwin-Williams Co/The	2.200	3/15/2032	500	Baa2 / BBB	86	122	87	81.26	(2)	81	131	85
SHW	Sherwin-Williams Co/The	2.900	3/15/2052	500	Baa2 / BBB	92	161	92	65.05	(1)	87	143	91
WLK	Westlake Chemical Corp	3.125	8/15/2051	600	Baa2 / BBB	141	208	140	63.47	(4)	132	188	141

Source: BofA Global Research, BofA Trading Desk, Bloomberg

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Exhibit 7: HG Metals, Mining and Steel Cash Spreads (Bid)

In the HG Metals, Mining, & Steel subsector, spreads were mixed but mostly flat to 10 bps tighter w-o-w.

Issuer	Entity	Coupon	Maturity	Outstanding (\$mm)	MDY/S&P	Bid (bps)	Z-Spread	G-Spread	Price	1 wk. change	6-mo tightts	6-mo wides	8-wk avg. spread (bps)
AALLN	Anglo American Capital PLC	5.500	5/2/2033	900	Baa2 / BBB	157	192	158	98.14	(1)	149	195	156
AALLN	Anglo American Capital PLC	4.750	3/16/2052	750	Baa2 / BBB	159	225	159	83.39	2	150	210	164
ABXCN	Barrick Gold Corp	5.750	5/1/2043	849	Baa1 / BBB	106	169	108	102.46	0	94	144	104
BHP	BHP Billiton Finance USA Ltd	5.250	9/8/2033	1,500	A2 / A-	90	125	91	101.17	(7)	83	120	90
BHP	BHP Billiton Finance USA Ltd	5.500	9/8/2053	800	A2 / A-	91	158	92	102.98	(3)	84	113	89
FCX	Freeport-McMoRan Inc	5.400	11/14/2034	730	Baa2 / BB+	151	185	150	97.59	(3)	131	206	144
FCX	Freeport-McMoRan Inc	5.450	3/15/2043	1,706	Baa2 / BB+	152	215	154	93.80	(4)	139	204	151
GLENLN	Glencore Funding LLC	6.500	10/6/2033	1,000	Baa1 / BBB+	139	173	140	106.65	(2)	130	197	138
GLENLN	Glencore Funding LLC	3.375	9/23/2051	500	Baa1 / BBB+	129	196	128	68.09	1	127	189	134
KCN	Kinross Gold Corp	6.250	7/15/2033	500	Baa3 / BBB-	164	198	165	102.94	7	157	239	168
NEM	Newmont Corp	2.600	7/15/2032	1,000	Baa1 / BBB+	98	134	99	82.62	(2)	80	144	93
NEM	Newmont Corp	4.875	3/15/2042	1,000	Baa1 / BBB+	100	163	105	93.11	8	84	148	93
NUE	Nucor Corp	3.125	4/1/2032	550	Baa1 / A-	79	114	80	87.71	1	76	127	79
NUE	Nucor Corp	3.850	4/1/2052	550	Baa1 / A-	93	161	93	78.70	2	83	143	90
RIOLN	Rio Tinto Finance USA Ltd	5.000	3/9/2033	650	A2 / A-	72	107	73	100.63	(2)	59	108	65
RIOLN	Rio Tinto Finance USA Ltd	5.125	3/9/2053	1,100	A2 / A-	93	161	94	97.16	3	83	120	87
SOUTAU	South32 Treasury Ltd	4.350	4/14/2032	700	Baa1 / BBB+	183	218	184	89.33	(5)	183	244	193
STLD	Steel Dynamics	3.250	1/15/2031	500	Baa2 / BBB	93	127	94	89.21	(7)	93	145	101
STLD	Steel Dynamics	3.250	10/15/2050	400	Baa2 / BBB	141	207	139	65.62	2	130	170	140
TCKBCN	Teck Resources Ltd	5.400	2/1/2043	367	Baa3 / BBB-	159	222	161	92.52	1	158	222	163

Source: BofA Global Research, BofA Trading Desk, Bloomberg

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Exhibit 8: HG Paper, Packaging, and Wood Cash Spreads (Bid)

In the HG Paper, Packaging, & Wood subsector, spreads were mixed w-o-w.

Issuer	Entity	Coupon	Maturity	Outstanding (\$mm)	MDY/S&P	Bid (bps)	Z-Spread	G-Spread	Price	1 wk. change	6-mo tightts	6-mo wides	8-wk avg. spread (bps)
ATR	AptarGroup Inc	3.600	3/15/2032	400	Baa3 / BBB-	129	164	130	87.84	2	118	190	125
AVY	Avery Dennison Corp	5.750	3/15/2033	400	Baa2 / BBB	100	135	101	103.92	0	98	160	105
IP	International Paper Co	4.350	8/15/2048	740	Baa2 / BBB	112	173	108	84.53	4	103	159	108
PKG	Packaging Corp of America	3.050	10/1/2051	700	Baa2 / BBB	96	164	95	67.03	0	96	147	104
SON	Sonoco Products Co	2.850	2/1/2032	500	Baa2 / BBB	107	142	108	84.47	(3)	105	165	117
SON	Sonoco Products Co	5.750	11/1/2040	537	Baa2 / BBB	126	188	137	100.10	(1)	126	180	135
WRK	WRKCO Inc	3.000	6/15/2033	600	Baa2 / BBB	100	136	101	83.94	0	99	155	102
WY	Weyerhaeuser	3.375	3/9/2033	450	Baa2 / BBB	107	143	108	86.53	(2)	105	145	109
WY	Weyerhaeuser	4.000	3/9/2052	450	Baa2 / BBB	109	176	109	78.94	2	107	145	114

Source: BofA Global Research, BofA Trading Desk, Bloomberg

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Exhibit 9: HG Construction Materials/Homebuilders Cash Spreads (Bid)

In the HG Construction Materials/Homebuilders subsector, spreads were mostly flat to 5 bps tighter w-o-w.

Issuer	Entity	Coupon	Maturity	Outstanding (\$mm)	MDY/S&P	Bid (bps)	Z-Spread	G-Spread	Price	1 wk. change	6-mo tights	6-mo wides	8-wk avg. spread (bps)
EXP	Eagle Materials	2.500	7/1/2031	750	Baa2 / BBB	102	137	103	83.55	(3)	102	163	108
FBINUS	Fortune Brands Home & Security Inc	5.875	6/1/2033	600	Baa2 / BBB	137	172	138	102.20	(1)	130	200	139
FBINUS	Fortune Brands Home & Security Inc	4.500	3/25/2052	450	Baa2 / BBB	146	213	146	81.51	0	141	210	153
MAS	Masco Corp	2.000	2/15/2031	600	Baa2 / BBB	106	141	107	81.15	(2)	105	150	112
MAS	Masco Corp	3.125	2/15/2051	300	Baa2 / BBB	112	179	110	66.72	0	109	188	114
MLM	Martin Marietta Materials Inc	2.400	7/15/2031	900	Baa2 / BBB+	96	131	97	83.20	(4)	92	144	96
MLM	Martin Marietta Materials Inc	3.200	7/15/2051	900	Baa2 / BBB+	92	160	91	69.73	(3)	80	141	88
OC	Owens Corning	4.300	7/15/2047	600	Baa1 / BBB	117	186	121	82.59	8	96	172	110
PHM	PulteGroup Inc	7.875	6/15/2032	300	Baa2 / BBB	130	164	131	115.77	(3)	130	192	139
VMC	Vulcan Materials Co	4.700	3/1/2048	461	Baa2 / BBB+	109	170	104	89.67	1	99	154	113

Source: BofA Global Research, BofA Trading Desk, Bloomberg

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HG Basic Materials Financial Data

Exhibit 10: HG Chemicals Financial Data (LTM as of 3Q23)

LTM financial data for HG Chemical Companies as of 3Q23

Company Name	Air Products	Albemarle	Celanese	CF Industries	Dow Chemical	DuPont	Eastman Chemical	Ecolab Inc.	FMC Corp.
Debt Ticker:	APD	ALB	CE	CF	DOW	DD	EMN	ECL	FMC
Sector/Subsector:	Industrial Gases	Spec. Chemicals	Spec. Chemicals	Agri. Chemicals	Petro. Chemicals	Spec. Chemicals	Spec. Chemicals	Spec. Chemicals	Agri. Chemicals
Moody's	A2 / S	Baa3 / S	Baa3 / N	Baa3 / S	Baa1 / S	Baa1 / S	Baa2 / S	A3 / N	Baa2 / S
S&P	A / S	BBB / S	BBB- / S	BBB / S	BBB / P	BBB+ / S	BBB / S	A- / N	BBB- / S
Financials (LTM, US\$ mm)									
Total Revenue	\$12,600	\$7,571	\$10,719	\$7,668	\$45,860	\$12,274	\$9,376	\$15,053	\$4,963
EBITDA	\$4,702	\$3,899	\$2,322	\$3,464	\$5,427	\$2,965	\$1,558	\$2,934	\$1,155
EBITDA Margin	37.3%	51.5%	21.7%	45.2%	11.8%	24.2%	16.6%	19.5%	23.3%
Capital Expenditures	\$4,626	\$1,365	\$583	\$445	\$2,197	\$659	\$852	\$714	\$143
Dividends	\$1,497	\$140	\$305	\$314	\$1,976	\$647	\$373	\$608	\$486
Free Cash Flow	(\$2,917)	\$242	\$722	\$2,103	\$1,445	\$113	\$154	\$1,096	(\$629)
Cash & Cash Equivalents	\$1,949	\$1,587	\$1,357	\$3,254	\$3,080	\$1,338	\$439	\$1,001	\$324
Total Debt	\$10,306	\$3,236	\$14,334	\$2,967	\$20,029	\$9,314	\$5,924	\$8,616	\$4,116
Total Debt/EBITDA	2.2x	0.8x	6.2x	0.9x	3.7x	3.1x	3.8x	2.9x	3.6x
Net Debt	\$8,357	\$1,649	\$12,977	(\$287)	\$16,949	\$7,976	\$5,485	\$7,615	\$3,792
Net Debt/EBITDA	1.8x	0.4x	5.6x	-0.1x	3.1x	2.7x	3.5x	2.6x	3.3x
Interest	\$178	\$76	\$710	\$90	\$724	\$417	\$211	\$296	\$225
EBITDA/Interest	26.5x	51.0x	3.3x	38.5x	7.5x	7.1x	7.4x	9.9x	5.1x
Market Capitalization	\$59,627	\$13,438	\$12,844	\$15,283	\$34,064	\$29,961	\$8,717	\$49,834	\$6,337
Enterprise Value	\$67,984	\$15,087	\$25,821	\$15,373	\$51,013	\$37,937	\$14,202	\$57,449	\$10,129
EV/EBITDA	14.5x	3.9x	11.1x	4.4x	9.4x	12.8x	9.1x	19.6x	8.8x
Total Debt/EV	15%	21%	56%	19%	39%	25%	42%	15%	41%

Source: BofA Research, Company Reports, Bloomberg

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**Exhibit 11: HG Chemicals Financial Data (LTM as of 3Q23)**

LTM financial data for HG Chemical Companies as of 3Q23

Company Name	Huntsman Corp.	Int'l Flavors & Fragrances	LyondellBasell	Mosaic	Nutrien	PPG Industries	RPM International	Sherwin-Williams	Westlake
Debt Ticker:	HUN	IFF	LYB	MOS	NTRCN	PPG	RPM	SHW	WLK
Sector/Subsector:	Commod. Chemicals	Spec. Chemicals	Petro. Chemicals	Agri. Chemicals	Agri. Chemicals	Coatings	Coatings	Coatings	Petro. Chemicals
Moody's	Baa3 / S	Baa3 / N	Baa2 / S	Baa2 / S	Baa2 / S	A3 / S	Baa3 / S	Baa2 / S	Baa2 / S
S&P	BBB- / S	BBB- / N	BBB / S	BBB / S	BBB / S	BBB+ / N	BBB / S	BBB / S	BBB / P
Financials (LTM, US\$ mm)									
Total Revenue	\$5,969	\$11,620	\$41,384	\$15,028	\$30,925	\$18,081	\$7,336	\$23,030	\$13,021
EBITDA	\$515	\$1,959	\$5,177	\$2,807	\$7,078	\$2,817	\$985	\$4,183	\$2,816
EBITDA Margin	8.6%	16.9%	12.5%	18.7%	22.9%	15.6%	13.4%	18.2%	21.6%
Capital Expenditures	\$233	\$550	\$1,520	\$1,384	\$2,814	\$531	\$249	\$803	\$1,049
Dividends	\$168	\$825	\$1,591	\$339	\$1,021	\$591	\$217	\$624	\$202
Free Cash Flow	(\$46)	(\$424)	\$1,931	\$1,102	\$1,817	\$978	\$447	\$1,818	\$1,347
Cash & Cash Equivalents	\$496	\$639	\$2,833	\$591	\$554	\$1,218	\$241	\$503	\$3,057
Total Debt	\$2,118	\$10,301	\$13,165	\$3,657	\$14,987	\$6,202	\$2,505	\$9,936	\$5,379
Total Debt/EBITDA	4.1x	5.3x	2.5x	1.3x	2.1x	2.2x	2.5x	2.4x	1.9x
Net Debt	\$1,622	\$9,662	\$10,332	\$3,066	\$14,433	\$4,984	\$2,264	\$9,433	\$2,322
Net Debt/EBITDA	3.1x	4.9x	2.0x	1.1x	2.0x	1.8x	2.3x	2.3x	0.8x
Interest	\$64	\$441	\$337	\$128	\$768	\$243	\$124	\$431	\$167
EBITDA/Interest	8.0x	4.4x	15.4x	21.9x	9.2x	11.6x	7.9x	9.7x	16.9x
Market Capitalization	\$4,294	\$18,130	\$29,971	\$11,266	\$27,952	\$29,508	\$12,606	\$65,463	\$15,845
Enterprise Value	\$5,916	\$27,792	\$40,303	\$14,332	\$42,385	\$34,492	\$15,112	\$74,896	\$18,167
EV/EBITDA	11.5x	14.2x	7.8x	5.1x	6.0x	12.2x	15.3x	17.9x	6.5x
Total Debt/EV	36%	37%	33%	26%	35%	18%	17%	13%	30%

Source: BofA Research, Company Reports, Bloomberg

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Exhibit 12: HG Metals, Mining, & Steel Financial Data (LTM as of 3Q23)

LTM financial data for HG Metals, Mining, & Steel Companies as of 3Q23

Company Name	Barrick Gold	Freeport McMoRan	Kinross Gold	Newmont Mining	Nucor	Reliance Steel	Steel Dynamics	Teck Resources
Debt Ticker:	ABXCN	FCX	KCN	NEM	NUE	RS	STLD	TCKBCN
Sector/Subsector:	Metals & Mining	Metals & Mining	Metals & Mining	Metals & Mining	Steel	Steel	Steel	Metals & Mining
Moody's	A3 / S	Baa3 / S	Baa3 / S	Baa1 / P	Baa1 / S	Baa2 / S	Baa2 / S	Baa3 / S
S&P	BBB+ / S	BB+ / P	BBB- / N	BBB+ / S	A- / S	BBB / P	BBB / S	BBB- / S
Financials (LTM, US\$ mm)								
Total Revenue	\$11,112	\$22,708	\$4,133	\$11,055	\$35,733	\$15,079	\$19,388	\$12,731
EBITDA	\$5,301	\$8,754	\$1,751	\$3,990	\$7,630	\$2,144	\$3,904	\$5,997
EBITDA Margin	47.7%	38.6%	42.4%	36.1%	21.4%	14.2%	20.1%	47.1%
Capital Expenditures	\$3,116	\$4,509	\$1,098	\$2,392	\$2,014	\$451	\$1,487	\$4,917
Dividends	\$785	\$861	\$148	\$1,390	\$517	\$233	\$262	\$515
Free Cash Flow	(\$354)	(\$964)	\$452	(\$625)	\$5,594	\$1,271	\$2,050	(\$1,544)
Cash & Cash Equivalents	\$4,261	\$6,442	\$465	\$3,190	\$6,719	\$977	\$2,266	\$1,343
Total Debt	\$4,775	\$9,405	\$2,415	\$6,087	\$6,681	\$1,142	\$3,095	\$6,745
Total Debt/EBITDA	0.9x	1.1x	1.4x	1.5x	0.9x	0.5x	0.8x	1.1x
Net Debt	\$514	\$2,963	\$1,950	\$2,897	(\$38)	\$165	\$829	\$5,402
Net Debt/EBITDA	0.1x	0.3x	1.1x	0.7x	0.0x	0.1x	0.2x	0.9x
Interest	\$205	\$555	\$104	\$215	\$28	\$46	\$86	\$112
EBITDA/Interest	25.9x	15.8x	16.8x	18.6x	276.3x	46.8x	45.6x	53.5x
Market Capitalization	\$26,491	\$50,913	\$6,421	\$39,415	\$37,385	\$15,291	\$17,528	\$24,883
Enterprise Value	\$27,005	\$53,876	\$8,371	\$42,312	\$37,347	\$15,456	\$18,357	\$30,285
EV/EBITDA	5.1x	6.2x	4.8x	10.6x	4.9x	7.2x	4.7x	5.0x
Total Debt/EV	18%	17%	29%	14%	18%	7%	17%	22%

Source: BofA Research, Company Reports, Bloomberg

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Exhibit 13: HG Paper, Packaging, & Wood Financial Data (LTM as of 3Q23)

LTM financial data for HG Paper, Packaging, & Wood Companies as of 3Q23

Company Name	Avery Dennison	CCL Industries	International Paper	Packaging Corp	Sonoco Products	WestRock	Weyerhaeuser
Debt Ticker:	AVY	CCLBCN	IP	PKG	SON	WRK	WY
Sector/Subsector:	Labeling	Labeling	Paper / Packaging	Paper / Packaging	Packaging	Packaging	Forestry
Moody's	Baa2 / S	Baa2 / S	Baa2 / S	Baa2 / S	Baa2 / S	Baa2 / S	Baa2 / S
S&P	BBB / S	BBB / S	BBB / S	BBB / S	BBB / N	BBB / S	BBB / S
Financials (LTM, US\$ mm)							
Total Revenue	\$8,280	\$4,896	\$19,448	\$7,843	\$6,822	\$20,310	\$7,723
EBITDA	\$1,178	\$957	\$2,535	\$1,622	\$1,022	\$2,872	\$1,742
EBITDA Margin	14.2%	19.5%	13.0%	20.7%	15.0%	14.1%	22.6%
Capital Expenditures	\$288	\$377	\$1,158	\$576	\$337	\$1,142	\$512
Dividends	\$252	\$137	\$646	\$453	\$195	\$281	\$1,208
Free Cash Flow	\$320	\$266	\$298	\$371	\$271	\$405	(\$408)
Cash & Cash Equivalents	\$210	\$577	\$1,149	\$727	\$258	\$393	\$1,173
Total Debt	\$3,314	\$1,889	\$5,669	\$2,087	\$3,255	\$8,584	\$5,679
Total Debt/EBITDA	2.8x	2.0x	2.2x	1.3x	3.2x	3.0x	3.3x
Net Debt	\$3,104	\$1,312	\$4,520	\$1,361	\$2,997	\$8,191	\$4,506
Net Debt/EBITDA	2.6x	1.4x	1.8x	0.8x	2.9x	2.9x	2.6x
Interest	\$112	\$67	\$238	\$57	\$128	\$418	\$274
EBITDA/Interest	10.5x	14.4x	10.7x	28.3x	8.0x	6.9x	6.4x
Market Capitalization	\$14,018	\$6,343	\$11,450	\$14,123	\$5,398	\$9,864	\$20,739
Enterprise Value	\$17,122	\$7,656	\$15,970	\$15,483	\$8,395	\$18,054	\$25,245
EV/EBITDA	14.5x	8.0x	6.3x	9.5x	8.2x	6.3x	14.5x
Total Debt/EV	19%	25%	35%	13%	39%	48%	22%

Source: BofA Research, Company Reports, Bloomberg

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Exhibit 14: HG Construction Materials/Homebuilders Financial Data (LTM as of 3Q23)

LTM financial data for HG Construction Materials/Homebuilders Companies as of 3Q23

Company Name	D.R. Horton	Eagle Materials	Fortune Brands	Martin Marrietta	Masco	Mohawk	Owens Corning	Vulcan
Debt Ticker:	DHI	EXP	FBINUS	MLM	MAS	MHK	OC	VMC
Sector/Subsector:	Homebuilding	Construction Products	Building Products	Construction Products	Building Products	Building Products	Building Products	Construction Products
Moody's	Baa1 / S	Baa2 / S	Baa2 / S	Baa2 / S	Baa2 / S	Baa1 / S	Baa2 / P	Baa2 / S
S&P	BBB+ / S	BBB / S	BBB / S	BBB+ / S	BBB / S	BBB+ / S	BBB / S	BBB+ / S
Financials (LTM, US\$ mm)								
Total Revenue	\$35,460	\$2,205	\$966	\$6,646	\$8,008	\$11,174	\$9,658	\$7,680
EBITDA	\$6,364	\$772	\$861	\$2,052	\$1,235	\$1,348	\$2,264	\$1,824
EBITDA Margin	17.9%	35.0%	89.2%	30.9%	15.4%	12.1%	23.4%	23.8%
Capital Expenditures	\$149	\$132	\$247	\$637	\$268	\$523	\$530	\$829
Dividends	\$341	\$36	\$124	\$169	\$256	\$0	\$175	\$225
Free Cash Flow	\$3,814	\$386	\$743	\$597	\$369	\$751	\$991	\$402
Cash & Cash Equivalents	\$3,874	\$47	\$453	\$648	\$560	\$518	\$1,323	\$340
Total Debt	\$5,095	\$1,090	\$2,829	\$4,344	\$3,012	\$2,598	\$3,022	\$3,875
Total Debt/EBITDA	0.8x	1.4x	3.3x	2.1x	2.4x	1.9x	1.3x	2.1x
Net Debt	\$1,221	\$1,042	\$2,376	\$3,697	\$2,452	\$2,080	\$1,699	\$3,535
Net Debt/EBITDA	0.2x	1.4x	2.8x	1.8x	2.0x	1.5x	0.8x	1.9x
Interest	\$204	\$42	\$122	\$168	\$108	\$75	\$89	\$190
EBITDA/Interest	31.3x	18.5x	7.1x	12.2x	11.4x	18.0x	25.4x	9.6x
Market Capitalization	\$43,162	\$5,165	\$6,959	\$28,052	\$12,610	\$5,137	\$11,047	\$25,661
Enterprise Value	\$44,383	\$6,207	\$9,335	\$31,749	\$15,062	\$7,216	\$12,746	\$29,196
EV/EBITDA	7.0x	8.0x	10.8x	15.5x	12.2x	5.4x	5.6x	16.0x
Total Debt/EV	11%	18%	30%	14%	20%	36%	24%	13%

Source: BofA Research, Company Reports, Bloomberg

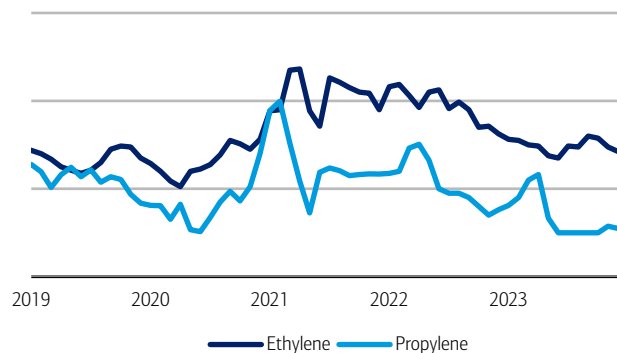
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Chemical Markets Data

Exhibit 15: Olefin Pricing (\$/lb)

Olefin prices have declined from their highs

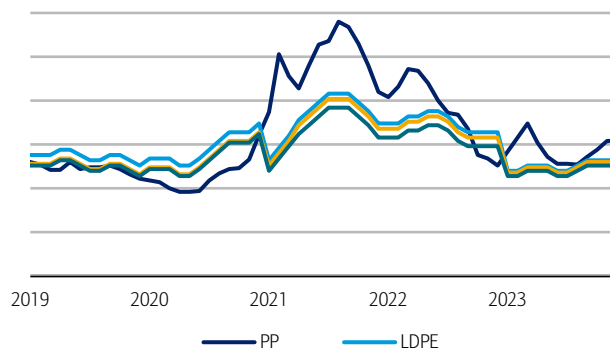


Source: Chemical Data Inc., a part of ICIS

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Exhibit 16: Polyolefin Pricing (\$/lb)

Polyolefin prices declined from their highs but have started to stabilize

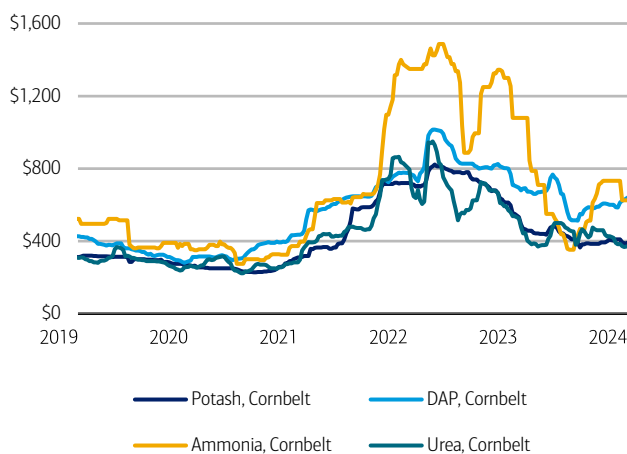


Source: Chemical Data Inc., a part of ICIS

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Exhibit 17: Fertilizer Pricing (\$/st)

Fertilizer prices declined from their high but have started to stabilize

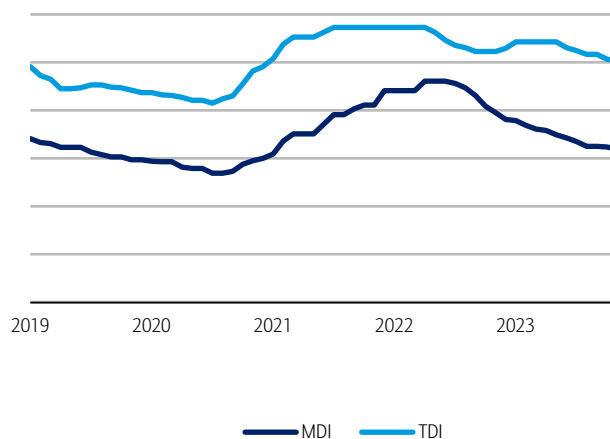


Source: BofA Global Research, Bloomberg

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Exhibit 18: Isocyanates Pricing (\$/lb)

MDI and TDI have rebounded from their COVID lows

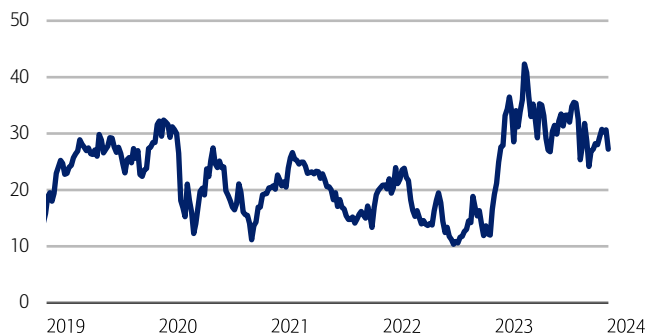


Source: Chemical Data Inc., a part of ICIS

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Exhibit 19: Brent (\$/bbl) to Natural Gas (\$/mmbtu)

The ratio of Brent to Natural Gas is at elevated levels

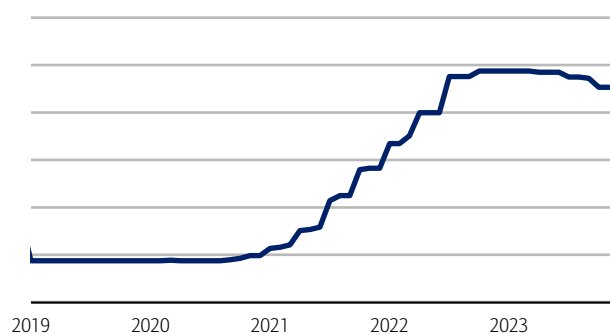


Source: BofA Global Research, Bloomberg

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Exhibit 20: Chlorine Price (US Gulf Coast FOB \$/st)

Chlorine price were largely flat in 2023



Source: Chemical Market Analytics by OPIS, a Dow Jones Company

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Commodity Forecasts

Exhibit 21: Commodity Team Base Metals Forecasts

BofA Global Research's quarterly and annual forecasts for base metals

		1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E	2027E	2028E	LT price
Aluminum	US\$/t	2,250	2,500	2,750	2,750	2,563	3,000	3,250	3,015	2,781	2,546
	US\$/lb	102	113	125	125	116	136	147	137	126	115
Strip Aluminum	US\$/t	2,279	2,279	2,279	2,279	2,279	2,425	2,546	2,637		
Copper	US\$/t	8,000	8,500	8,750	9,250	8,625	10,500	9,500	9,539	9,578	9,617
	US\$/lb	363	386	397	420	391	476	431	433	434	436
Strip Copper	US\$/t	8,593	8,593	8,593	8,593	8,593	8,686	8,712	8,725		
Lead	US\$/t	2,000	2,000	2,000	2,000	2,000	1,750	2,024	2,217	2,409	2,602
	US\$/lb	91	91	91	91	91	79	92	101	109	118
Strip Lead	US\$/t	2,167	2,167	2,167	2,167	2,167	2,189	2,219	2,251		
Nickel	US\$/t	18,500	18,500	19,000	19,000	18,750	20,000	20,000	19,141	18,283	17,424
	US\$/lb	839	839	862	862	850	907	907	868	829	790
Strip Nickel	US\$/t	16,925	16,925	16,925	16,925	16,925	17,858	18,628	19,421		
Zinc	US\$/t	2,500	2,500	2,250	2,250	2,375	2,250	2,424	2,596	2,769	2,942
	US\$/lb	113	113	102	102	108	102	110	118	126	133
Strip Zinc	US\$/t	2,592	2,592	2,592	2,592	2,592	2,621	2,627	2,630		

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

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Exhibit 22: Commodity Team Precious Metals Forecasts

BofA Global Research's quarterly and annual forecasts for precious metals

		1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E	2027E	2028E	LT price
Gold, nominal	US\$/oz	1,950	1,950	2,000	2,000	1,975	2,150	2,096	2,095	2,094	2,093
Gold, real	US\$/oz	1,950	1,950	2,000	2,000	1,975	2,098	1,995	1,946	1,898	1,850
Strip Gold	US\$/oz	2,064	2,064	2,064	2,064	2,064	2,155	2,259	2,314		
Silver, nominal	US\$/oz	22.50	23.00	23.53	24.00	23.26	24.75	26.07	27.18	28.39	29.42
Silver, real	US\$/oz	22.50	23.00	23.53	24.00	23.26	24.15	24.81	25.21	25.60	26.00
Strip Silver	US\$/oz	22.92	22.92	22.92	22.92	22.92	24.26	25.19	25.40		
Platinum	US\$/oz	1,000	1,000	1,100	1,250	1,050	1,250	1,322	1,372	1,421	1,471
Strip Platinum	US\$/oz	907	907	907	907	907	936	969			
Palladium	US\$/oz	900	800	700	600	750	500	500	824	1,147	1,471
Strip Palladium	US\$/oz	958	958	958	958	958	1,000	1,049			

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 23: Commodity Team Bulk Commodities Forecasts

BofA Global Research's quarterly and annual forecasts for bulk commodities

		1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E	2027E	2028E	LT price
Hard coking coal	US\$/t fob	360	280	210	230	270	215	205	212	219	226
Strip Hard coking coal	US\$/t fob	295	295	295	295	295	273	220	215		
Semi-soft	US\$/t fob	238	185	139	152	178	142	135	134	133	132
Thermal Coal	US\$/t fob	148	148	151	153	150	125	112	112	113	113
Iron ore fines, spot	US\$/t CIF	150	130	120	100	125	90	90	94	98	102
Strip Iron ore fines, spot	US\$/t CIF	128	128	128	128	128	112	102			

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 24: Commodity Team Other Materials Forecasts

BofA Global Research's quarterly and annual forecasts for other materials

		1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E	2026E	2027E	2028E	LT price
Lithium spodumene	\$/t	1,950	1,850	1,750	1,500	1,763	2,188	1,858	1,722	1,586	1,450
Lithium carbonate	\$/t	18,000	17,000	16,000	15,000	16,500	21,875	21,250	20,833	20,417	20,000
Lithium hydroxide	\$/t	19,500	18,500	17,500	16,500	18,000	23,375	22,750	22,333	21,917	21,500
Alumina	\$/t	340	340	340	340	340	348	357	375	394	412
Uranium	\$/lb	75.00	7,750.00	80.00	80.00	78.13	75.00	70.00	65.00	60.00	55.00
Molybdenum	\$/lb	18.10	18.10	18.10	18.10	18.10	18.10	18.10	16.32	14.54	12.76
Cobalt	\$/lb	18.00	18.00	18.00	18.00	18.00	18.00	18.44	19.84	21.23	22.63
Manganese ore	\$/dmtu	4.35	4.35	4.35	4.35	4.35	4.35	4.93	5.52	6.11	6.70

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 25: Commodity Team Steel HRC Forecasts

BofA Global Research's quarterly and annual forecasts for steel

		1Q24E	2Q24E	3Q24E	4Q24E	2024E	2025E
HRC, Europe	US\$/t	719	701	639	674	683	714
HRC, US	US\$/t	1,130	1,020	882	805	959	799
HRC, China	US\$/t	568	602	623	592	595	602

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 26: Commodity Team Energy Forecasts

BofA Global Research's quarterly and annual forecasts for steel

		1Q24E	2Q24E	3Q24E	4Q24E	2024E
Brent	US\$/bbl	78.00	80.00	82.00	80.00	80.00
Strip Brent	US\$/bbl	80.16	80.16	80.16	80.16	80.16
WTI	US\$/bbl	73.00	75.00	77.00	75.00	75.00
Strip WTI	US\$/bbl	75.46	75.46	75.46	75.46	75.46
Henry Hub	US\$/MMBtu	2.90	2.50	3.00	3.60	3.00
Strip Henry Hub	US\$/MMBtu	2.76	2.76	2.76	2.76	2.76

Source: BofA Global Research, BofA Global Commodity Research, Bloomberg

BofA GLOBAL RESEARCH

Precious and Base Metals Market Data

Exhibit 27: Gold Spot Price (\$/oz)

Gold prices ended down -0.3% w/w at \$2,034



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 28: Gold Spot Price (\$/oz)

Silver prices ended down -0.1% w/w at \$22.68

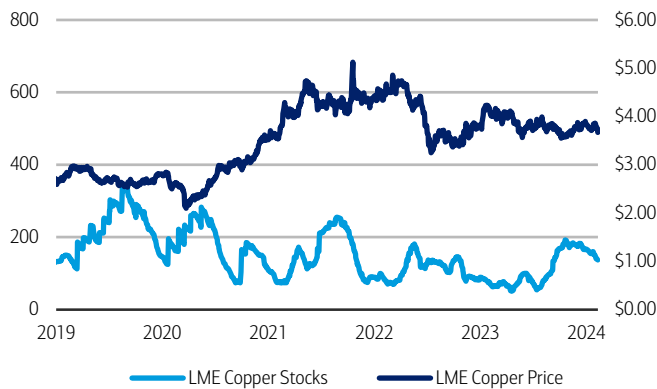


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 29: LME Copper Warehouse Stocks (000s mt) & Price (\$/lb)

Copper prices ended down -4.0% w/w at \$3.67

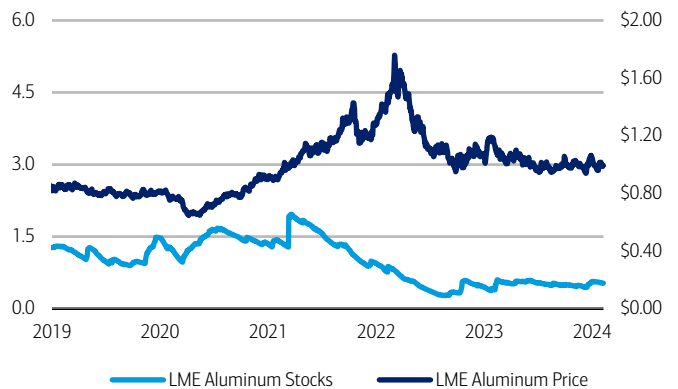


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 30: LME Aluminum Warehouse Stocks (mm mt) & Price (\$/lb)

Aluminum prices ended down -0.7% w/w at \$0.99

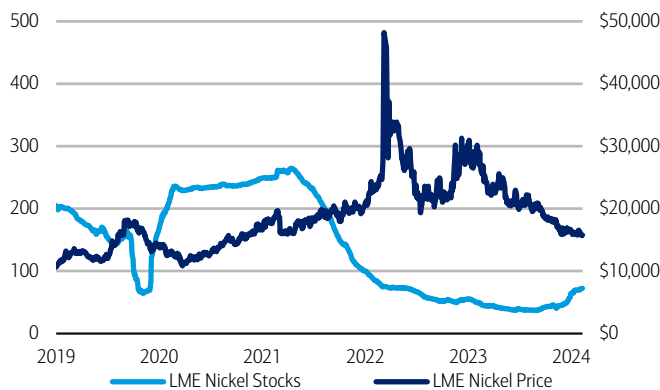


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 31: LME Nickel Warehouse Stocks (000s mt) & Price (\$/mt)

Nickel prices ended down -1.4% w/w at \$15,754



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 32: LME Zinc Warehouse Stocks (000s mt) & Price (\$/mt)

Zinc prices ended down -6.3% w/w at \$2,313

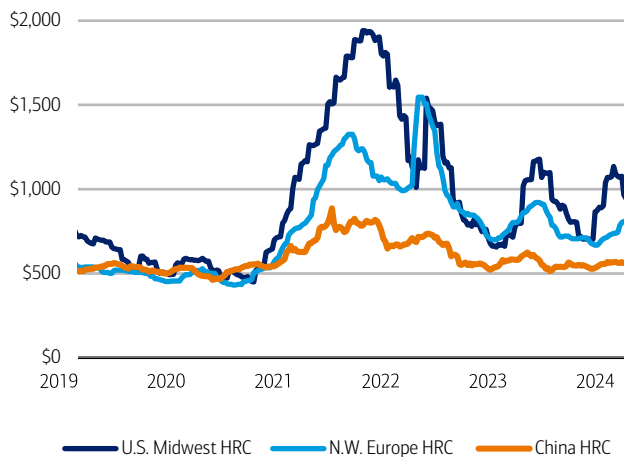


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 33: U.S. Midwest HRC (\$/t), NW. Europe HRC (\$/mt) and China HRC (\$/mt)

U.S. Midwest HRC prices ended down -2.3% w/w at \$945; NW. Europe HRC prices ended unchanged at \$808; China HRC prices ended down -0.1% w/w at \$561



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 34: China Spot Iron Ore 62% (\$/mt)

China spot iron ore prices ended down -0.3% w/w at \$128

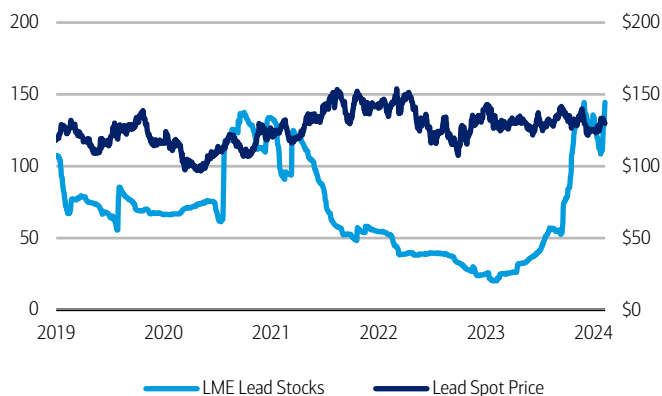


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 35: LME Lead Warehouse Stocks (000s mt) & Price (\$/lb)

Lead prices ended down -2.5% w/w at \$130

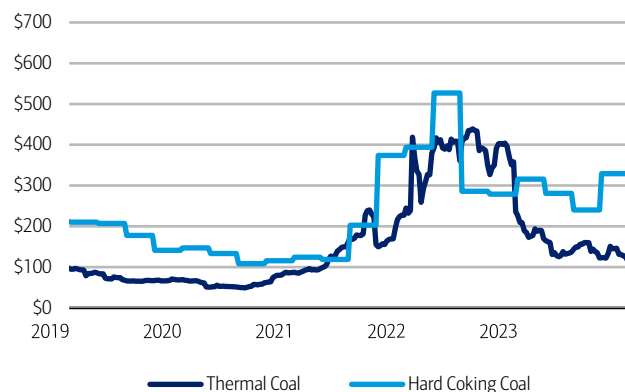


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 36: Hard Coking Coal (\$/mt) and Thermal Coal (\$/mt)

Thermal Coal prices ended up +3.3% w/w at \$121 Hard Coking Coal prices ended unchanged at \$329



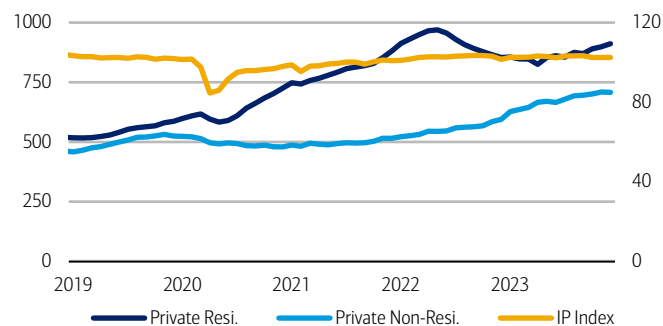
Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Construction Products Market Data

Exhibit 37: US Construction Spending (\$bn) & Industrial Production Index

U.S. private residential new construction spending peaked in May 2022

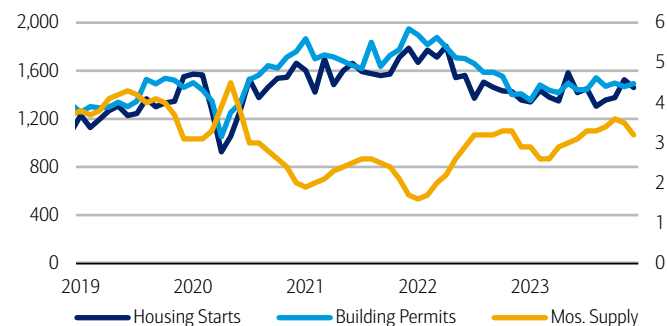


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 38: US Housing Statistics (000s, SAAR) & Months' Supply of Existing Homes

U.S. housing starts & building permits have fallen from Spring 2022 highs

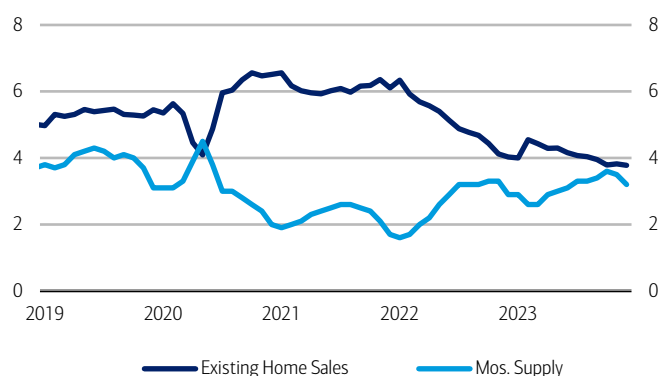


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 39: Existing Home Sales (mm) & Months' Supply of Existing Homes

U.S. existing home sales have declined since February 2022

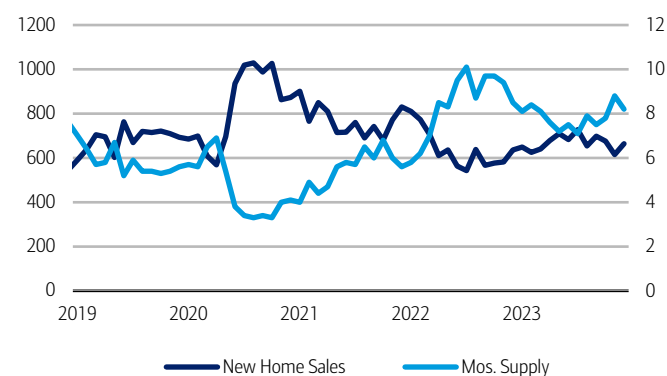


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 40: New Home Sales (000s) & Months' Supply of New Homes

U.S. new home sales have fallen from 2020 highs

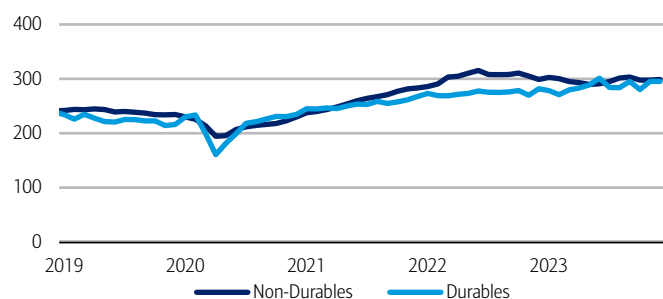


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 41: U.S. Durable/Non-Durable Goods (\$bn)

New orders for U.S. durable and non-durable goods have rebounded since their COVID lows

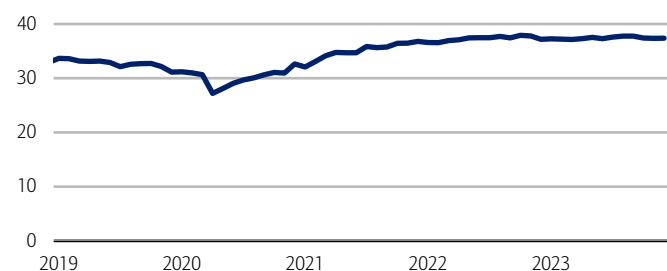


Source: BofA Global Research, Bloomberg

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Exhibit 42: U.S. Durable Goods: Machinery (\$bn)

New orders for U.S. machinery have rebounded since their COVID lows



Source: BofA Global Research, Bloomberg

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HG Basic Materials New Issuance

Exhibit 43: HG Energy New Issuance

There was ~\$4b of HG New Issuance to date in 2024

Announce Date	Ticker	Issuer	Moody's	S&P	Amount Issued (\$MM)	Coupon (%)	Maturity Date	Term (years)	Spread At Issue
2/6/2024	APD	Air Products & Chemicals	A2	A	750	4.6	2/8/2029	5	60
2/6/2024	APD	Air Products & Chemicals	A2	A	600	4.75	2/8/2031	7	70
2/6/2024	APD	Air Products & Chemicals	A2	A	1150	4.85	2/8/2034	10	80
2/7/2024	DOW	Dow Chemical Co/The	Baa1	BBB	600	5.15	2/15/2034	10	105
2/7/2024	DOW	Dow Chemical Co/The	Baa1	BBB	650	5.6	2/15/2054	30	130

Source: Bloomberg, Company & Partnership Reports

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Earnings Calendar

Exhibit 44: HG Basic Materials Earnings Calendar

HG Basic Materials earnings over the next few weeks

Company	Sector	Ticker	EPS Date	Time	Status	Call Date	Call Time	Call Number	Call PIN
Ecolab Inc	Chemicals	ECL US	2/13/2024	Bef-mkt	Confirmed	2/13/2024	1:00:00 PM	#N/A N/A	#N/A N/A
Barrick Gold Corp	Mining	ABX CN	2/14/2024	06:00	Confirmed	2/14/2024	11:00:00 AM	1 800 319 4610	#N/A N/A
Martin Marietta Materials Inc	Building Materials	MLM US	2/14/2024	Bef-mkt	Confirmed	2/14/2024	10:00:00 AM	#N/A N/A	#N/A N/A
Owens Corning	Building Materials	OC US	2/14/2024	Bef-mkt	Confirmed	2/14/2024	9:00:00 AM	1 833 470 1428	498688
CF Industries Holdings Inc	Chemicals	CF US	2/14/2024	Aft-mkt	Confirmed	2/15/2024	10:00:00 AM	833-634-5017	#N/A N/A
Kinross Gold Corp	Mining	K CN	2/14/2024	Aft-mkt	Confirmed	2/15/2024	8:00:00 AM	+1 (888) 330-2446	4915537
Sonoco Products Co	Packaging&Containers	SON US	2/14/2024	Aft-mkt	Confirmed	2/15/2024	8:30:00 AM	+1 844-543-0451	916190
Albemarle Corp	Chemicals	ALB US	2/14/2024	Aft-mkt	Confirmed	2/15/2024	9:00:00 AM	+1 (888) 330-2007	5205664
Reliance Steel & Aluminum Co	Iron/Steel	RS US	2/15/2024	06:50	Confirmed	2/15/2024	11:00:00 AM	(877) 407-0792	13743428
Vulcan Materials Co	Building Materials	VMC US	2/16/2024	Bef-mkt	Confirmed	2/16/2024	10:00:00 AM	800-274-8461	4460325
Westlake Corp	Chemicals	WLK US	2/20/2024	Bef-mkt	Confirmed	2/20/2024	11:00:00 AM	+1 844-543-0451	156541
Celanese Corp	Chemicals	CE US	2/20/2024	Aft-mkt	Confirmed	2/21/2024	10:00:00 AM	1-877-407-0989	#N/A N/A
Toll Brothers Inc	Home Builders	TOL US	2/20/2024	Aft-mkt	Confirmed	2/21/2024	8:30:00 AM	#N/A N/A	#N/A N/A
International Flavors & Fragra	Chemicals	IFF US	2/20/2024	Aft-mkt	Confirmed	2/21/2024	9:00:00 AM	#N/A N/A	#N/A N/A
Northern Star Resources Ltd	Mining	NST AU	2/20/2024	NA	Estimated	NA	NA	#N/A N/A	#N/A N/A
CCL Industries Inc	Packaging&Containers	CCL/B CN	2/21/2024	17:30	Confirmed	2/22/2024	7:30:00 AM	1-877-545-0320	832360
Huntsman Corp	Chemicals	HUN US	2/21/2024	Aft-mkt	Confirmed	2/22/2024	10:00:00 AM	(877) 402-8037	#N/A N/A
Nutrien Ltd	Chemicals	NTR CN	2/21/2024	Aft-mkt	Confirmed	2/22/2024	10:00:00 AM	1-888-886-7786	#N/A N/A
Mosaic Co/The	Chemicals	MOS US	2/21/2024	Aft-mkt	Confirmed	2/22/2024	11:00:00 AM	+1 877-883-0383	7765456
Newmont Corp	Mining	NEM US	2/22/2024	Bef-mkt	Confirmed	2/22/2024	10:00:00 AM	833 470 1428	960159
Teck Resources Ltd	Coal	TCK	2/22/2024	Bef-mkt	Confirmed	2/22/2024	11:00:00 AM	1 800 319 4610	Teck Resources
Lennar Corp	Home Builders	LEN US	3/14/2024	NA	Estimated	NA	NA	#N/A N/A	#N/A N/A

Source: BofA Global Research, Bloomberg

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Valuation & risk

Dow Chemical (DOW)

Dow Inc. (DOW) is a global chemical company whose portfolio of plastics, industrial intermediates, coatings and silicones businesses delivers a broad range of products and solutions such as packaging, infrastructure, mobility and consumer care.

DOW's fundamentals are supported by its large size & scale, diversification, and industry bellwether status. In the near term, however, we believe that an uncertain macro backdrop, poor investor sentiment, and petrochemical demand around trough levels could weigh on the company's credit story. Furthermore, we think that DOW's current trading levels screen rich vs peers and the Single-A Corporate Index, particularly given the current chemicals downcycle. As a result, we expect DOW's spreads to widen near-term and provide an UW rec on the name.

Risks: commodity price volatility, lower/higher supply and/or demand, lower/higher production costs, a more/less shareholder-friendly capital allocation policy and government intervention.

Analyst Certification

I, Daniel Lungo, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Security/Loan pricing

Dow Chemical Company / DOW

	Amt		Ratings			Yield	Spread
Security		Maturity date	Moody's/S&P/Fitch	Price	Price date	(%)	(bps)
7.375, Senior, USD, 2029:B	748	01-NOV-2029	Baa1/BBB/BBB+	111.12	08-Feb-2024	5.11	98
9.4, Senior, USD, 2039:B	558	15-MAY-2039	Baa1/BBB/BBB+	135.16	08-Feb-2024	5.88	153
5.25, Senior, USD, 2041:B	750	15-NOV-2041	Baa1/BBB/BBB+	95.72	08-Feb-2024	5.63	120
4.25, Senior, USD, 2034:B	500	01-OCT-2034	Baa1/BBB/BBB+	93.23	08-Feb-2024	5.08	89
4.625, Senior, USD, 2044:B	500	01-OCT-2044	Baa1/BBB/BBB+	87.95	08-Feb-2024	5.62	112
4.8, Senior, USD, 2049:B	750	15-MAY-2049	Baa1/BBB/BBB+	88.23	08-Feb-2024	5.68	119
4.8, Senior, USD, 2028:B	600	30-NOV-2028	Baa1/BBB/BBB+	99.69	08-Feb-2024	4.87	72
5.55, Senior, USD, 2048:B	896	30-NOV-2048	Baa1/BBB/BBB+	98.88	08-Feb-2024	5.63	113
2.1, Senior, USD, 2030:B	850	15-NOV-2030	Baa1/BBB/BBB+	84.06	08-Feb-2024	4.90	77
3.6, Senior, USD, 2050:B	1,150	15-NOV-2050	Baa1/BBB/BBB+	73.74	08-Feb-2024	5.48	102
6.3, Senior, USD, 2033:B	600	15-MAR-2033	Baa1/BBB/BBB+	107.78	08-Feb-2024	5.19	104
6.9, Senior, USD, 2053:B	900	15-MAY-2053	Baa1/BBB/BBB+	115.49	08-Feb-2024	5.79	140

For pricing information refer to "Other Important Disclosures" below.

B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); CDS=Credit Default Swap; EP=Equity Preferred

Disclosures

Important Disclosures

Credit opinion history

Dow Chemical Company / DOW

Company	Date ^{R1}	Action	Recommendation	
Dow Chemical Company / DOW	31-Jan-2021		Underweight	
	04-Mar-2021	Extended Review	NA	
	19-Oct-2021	Coverage Reinstatement	Marketweight	
	18-Aug-2023	Downgrade	Underweight	
Security	Date ^{R1}	Action	Recommendation	Price
7.375, Senior, USD, 2029:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	108.79
9.4, Senior, USD, 2039:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	128.63
5.25, Senior, USD, 2041:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	91.74
4.25, Senior, USD, 2034:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	87.71
4.625, Senior, USD, 2044:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	82.15
4.8, Senior, USD, 2049:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	82.12
4.8, Senior, USD, 2028:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	97.62
5.55, Senior, USD, 2048:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	91.98
2.1, Senior, USD, 2030:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	80.04
3.6, Senior, USD, 2050:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	68.80
6.3, Senior, USD, 2033:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	104.13
6.9, Senior, USD, 2053:B	31-Jan-2023		Marketweight	
	18-Aug-2023	Downgrade	Underweight	107.22

Table reflects credit opinion history as of previous business day's close.^{R1} First date of recommendation within the last 36 months, if for an issuer or within the last 12 months, if for a security or loan. The investment opinion system is contained at the end of the report under the heading "BofA Global Research Credit Opinion Key."

Pricing information in the table is provided for each action where available. In the case of bonds, loans, capital securities and equity preferreds, the price shown reflects the nominal cash price for the security; and in the case of CDS, the price shown reflects the spread, on the date of the relevant action.

B=Bond; L=Loan; CS=Capital Security (Not including Equity Preferred); EP=Equity Preferred; CDS=Credit Default Swap

BofA Global Research Credit Opinion Key

BofA Global Research provides recommendations on an issuer's bonds (including corporate and sovereign external debt securities), loans, capital securities, equity preferreds and CDS as



described below. Convertible securities are not rated. An issuer level recommendation may also be provided for an issuer as explained below. BofA Global Research credit recommendations are assigned using a three-month time horizon.

Issuer Recommendations: If an issuer credit recommendation is provided, it is applicable to bonds and capital securities of the issuer except bonds and capital securities specifically referenced in the report with a different credit recommendation. Where there is no issuer credit recommendation, only individual bonds and capital securities with specific recommendations are covered. Loans, CDS and equity preferreds are rated separately and issuer recommendations do not apply to them.

BofA Global Research credit recommendations are assigned using a three-month time horizon:

Overweight: Spreads and/or excess returns are likely to outperform the relevant and comparable market over the next three months.

Marketweight: Spreads and/or excess returns are likely to perform in-line with the relevant and comparable market over the next three months.

Underweight: Spreads and/or excess returns are likely to underperform the relevant and comparable market over the next three months.

BofA Global Research uses the following rating system with respect to **Credit Default Swaps (CDS)**:

Buy Protection: Buy CDS, therefore going short credit risk.

Neutral: No purchase or sale of CDS is recommended.

Sell Protection: Sell CDS, therefore going long credit risk.

Corporate Credit Issuer Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R2}	Count	Percent
Buy	144	37.21%	Buy	119	82.64%
Hold	193	49.87%	Hold	163	84.46%
Sell	50	12.92%	Sell	37	74.00%

^{R2} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only corporate credit issuer recommendations. A corporate credit issuer rated Overweight is included as a Buy, a corporate credit issuer rated Marketweight is included as a Hold, and a corporate credit issuer rated Underweight is included as a Sell.

Credit Opinion History Tables for the securities referenced in this research report are available on the [Price Charts and Credit Opinion History Tables website](#), or call 1-800-MERRILL to have them mailed.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Dow Chemical.

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