

A photograph of various laboratory glassware, including Erlenmeyer flasks and graduated cylinders, some containing liquids. The image has a blue tint and is used as a background for the top section of the document.

Market Update Chemicals & Materials

Q4 2017

Lincoln International is proud to announce the closing of a record 192 transactions worldwide in 2017, representing a nearly 20% increase from 2016. Lincoln's Global Chemical's & Materials Team completed 16 transactions and has developed a record backlog for 2018.

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Chemicals & Materials Market Intelligence



Richard O'Reilly, CFA, is a chemicals analyst who writes for Revere Associates. He previously served as Associate Director at S&P in its U.S. Equity Research – Chemicals Division.

Notes:

This section reflects the views of Richard O'Reilly, CFA, who writes for Revere Associates. Mr. O'Reilly is not employed or compensated by Lincoln International, and the views set forth in this section are those of Mr. O'Reilly and should not be assumed to reflect the views of Lincoln International.

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Chemical Industry Momentum Resumed During Q4, Lower U.S. Tax Rate to Help 2018

Guest Columnist

Based on economic and industry reports through mid-January, we believe the business environment for the U.S. chemical industry strengthened during the recently completed fourth quarter. Domestic economic activity continued to grow in the quarter but at a rate expected to have been slightly less than the over 3% annual rates estimated for the prior two quarters of 2017. The domestic manufacturing sector also continued to expand during the final quarter.

The fourth quarter included lingering effects of Hurricanes Harvey and Irma related plant outages and lost production, supply and logistics disruptions, and raw material cost inflation. Hurricane Harvey in late August landed on the Texas Gulf Coast, the center of the U.S. petrochemical industry.

The tax reform law approved in late December will have a major impact for many companies both for the recent fourth quarter and going forward, enhancing future net incomes and cash flows. The law includes a permanent reduction in the U.S. statutory corporate tax rate from 35% to 21% starting in 2018, the immediate expensing of investment in plant and equipment (accelerated depreciation rates), and low tax rate incentives for the now required repatriation of overseas income not yet taxed to the U.S. Because of the new lower tax rate, companies will have to incur charges to reduce the value of any deferred tax assets arising from past losses and for a one-time repatriation tax on accumulated deferred foreign earnings. The size of any such charges would depend on the magnitude of a company's foreign operations. One negative aspect of the new law is a limit on deductibility of interest expense to 30% of a measure of pretax income, which would especially hurt highly debt leveraged companies.

The American Chemistry Council (ACC) reported its Chemicals Activity Barometer (CAB), a leading macroeconomic indicator based on chemical industry data, on a three-month moving average basis, expanded during the fourth quarter at a faster pace than in the third quarter. Compared to a year earlier, the CAB in December was up 3.7%, a rebound in growth after the adverse impacts of the Hurricanes Harvey and Irma in the late summer. The ACC noted that the latest reading

signaled further gains in U.S. business activity through the third quarter of 2018.

The global manufacturing sector, the largest customer base for the chemical industry, continued to strengthen during the just completed fourth quarter and at the fastest monthly rates in nearly seven years, according to the monthly worldwide PMI business surveys.

The U.S. manufacturing sector also continued to strengthen during the fourth quarter. According to the Institute for Supply Management's monthly reports for manufacturing activity, U.S. manufacturing activity in December expanded for the sixteenth consecutive month and the pace of growth in the fourth quarter was the fastest since in 2004.

The ISM manufacturing monthly reports indicated that the U.S. chemical products industry also expanded in each month of the fourth quarter. The industry's last monthly contraction was reported for September 2016.

The Federal Reserve Board reported that industrial production climbed at an 8.2% annual rate during the fourth quarter following a 1.3% decline in the third quarter caused by the effects of the hurricanes. Output for the chemicals industry was estimated to have jumped 16%, as the basic chemicals and plastics sub-groups recovered in the months after Harvey.

Several "hard data" points indicate that the pace of chemicals production and shipments accelerated during the final quarter of 2017. According to the Association of American Railroads, the number of U.S. chemicals railroad carloads in the fourth quarter rose 4.4% from the year earlier period, including a 6.4% rise in October, the fastest rates of growth for 2017. For all of 2017, total number of railcars rose 1.2%, a smaller gain than the 1.5% for 2016. Railroads carry about 30% of industry shipments.

Chlor-alkali industry production of chlorine and caustic soda, widely used chemicals, recovered in the final two months of 2017 after falling off in late August and September as a result of plant outages caused directly or indirectly

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by Hurricane Harvey. The industry operated at 92% of capacity in November, up from 85% for the prior two months, as the plants resumed operations and with a backlog of demand to satisfy. Plastic resins industry production also rose in both October and November from the comparable months in 2016, and both months recovered after a drop in September. Year-to-date production through November was nearly unchanged as compared to the same period in 2016.

Prices for key basic chemicals, intermediates, and plastics were higher during the fourth quarter, mostly due to the significant supply outages including from Hurricane Harvey in late August, but with some price easing by the end of the quarter. These higher prices for chemicals products will remain a cost headwind in early 2018 to buyers such as paint and specialty chemical producers as their ability to implement selling price typically lag a rise in input costs.

The monthly average of a global index published by S&P Global Platts of seven widely used petrochemicals, in November eased slightly for the second consecutive month but was 22% higher than the year earlier month after prices climbed as a result of supply curtailments following Harvey.

The domestic monthly contract prices for ethylene, the largest volume petrochemical monomer, declined each month of the fourth quarter after rising 20% over August and September on supply disruptions after as much as 60% of domestic capacity was closed at the peak because of Harvey. The price on average for the fourth quarter was 5% above the third quarter but only marginally higher than the year earlier period. Ethylene margins widened in the quarter on the higher prices.

Domestic prices for most of the major derivative plastics were higher during the fourth quarter. Polyethylene makers were able to raise prices in the months following Harvey, but prices began to erode by the end of 2017 and further weakness may occur in early 2018. Polyethylene makers include DowDuPont, LyondellBasell, and Westlake Chemical. Polyvinyl chloride makers achieved a portion of their price increases for October which were driven by higher ethylene costs, but gains likely eroded a bit by year end due to the typical seasonal slowdown in construction

markets and the recent decline in monomer costs; producers will attempt hikes late in the first quarter ahead of the spring pickup of construction activity. Vinyl producers include Westlake Chemical, the second largest U.S. vinyl resins producer.

Contract prices for propylene, the second largest volume monomer, rose monthly during the fourth quarter on supply issues following a spike in September of nearly 20% as nearly 40% of capacity at the peak was closed due to Harvey. Prices for the fourth quarter averaged 18% higher versus the third quarter and 37% against the year earlier quarter. We expect prices to remain high in early 2018 as other outages have resulted in low industry inventories. These higher propylene prices combined with supply issues for other products have resulted in increased prices for derivatives such as resins and solvents to buyers, including paint makers (Sherwin-Williams, PPG Industries, and Axalta).

Inorganic prices increased during 2017. Caustic soda contract prices have risen since early 2016 on stronger domestic demand and record annual exports in part due to capacity shutdowns overseas. Prices continued to rise during the recent fourth quarter including a sizable increase in October following numerous plant outages caused by Harvey and pent-up demand, and we expect more gains in early 2018 following announced price hikes.

Chlorine prices rose modestly in each of the final three quarter of 2017 as producers achieved portions of proposed price increases. We believe strong demand and tight supply balances likely allowed producers to achieve similar gains in the first quarter of 2018 and that producers will announce a price hike ahead of typical seasonally stronger second quarter. Olin Corp. and Westlake Chemical are major chlor-alkali makers.

Titanium dioxide pigment prices and margins have greatly increased globally since bottoming early in 2016 as producers have been able to implement various regional price increases due to stronger industry supply/demand fundamentals, including due to some capacity closures. We expect further price gains through early 2018. The leading producers are Chemours, Venator Materials (the former pigment business of Huntsman Corp.), and Tronox. These higher selling prices are negatively impacting important users such as paint and plastics makers.

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The Journal of Business Chemistry – The Academic Journal for Management Issues in the Chemical Industry

Digitalization in the Chemical Industry: Beyond the Buzz

Digitalization affects all parts of the chemical industry: Increased process efficiency, new market platforms and innovative business models are often discussed as new opportunities for the chemical industry.

Chemical companies have found different ways to handle the digitalization challenge: Some international players have established special organizational units, others integrated this topic in their current management structure and approach. Some companies – considering themselves as “material producer” – see the biggest opportunities in the field of the “electrification” of existing production processes, others highlight opportunities of a digital disruption of existing businesses.

Therefore, the Journal of Business Chemistry is going to publish a special issue on digitalization, giving experts from this field a platform to provide interesting insights to our community. As the research field and practical implications of digitalization are very broad, the Journal of Business Chemistry is open to a variety of topics addressing specific to this field.

With the special issue on digitalization in the chemical industry, we want to highlight:

- Diverse perspectives on the strategic and the operational impact of digitalization on the value chain
- Opinions on the adoption of digital technologies
- The chances and risks of the interconnectedness of industrial operations
- The implication of digitalization on established job profiles and necessary skills
- The implementation of predictive analytics and maintenance
- The risks arising from digitalization (e.g. data security)

Authors should submit their manuscript between February 1st and 28th, 2018 to contact@businesschemistry.org. For further information on the submission guidelines, please [click here](#).

The Journal of Business Chemistry – Reading Recommendations

The benefits of social sustainability reporting for companies and stakeholders – Evidence from the German chemical industry

by Verena Zimara and Sebastian Eidam

Companies' corporate social responsibility (CSR) activities respond to the increasing expectations of society. One of the three dimensions of sustainability, also known as the triple bottom line, is social sustainability. Compared to economic and environmental sustainability, the social dimension is often neglected by companies. Especially actors in the chemical industry are having a great social responsibility and are thus constantly monitored with regard to their activities and performance. Consequently, the firms need to care for their social sustainability in order to secure their license to operate. This study

therefore aims at identifying the current state of social sustainability reporting within chemical companies in Germany. A data set of 14 CSR reports is tested regarding the use and fulfillment of the Global Reporting Initiative's (GRI) guidelines and indicators regarding social aspects. The results clearly indicate that social sustainability reporting is handled quite diverse concerning structure and extent among the analyzed companies. The study concludes with recommendations of how to improve the comparability of social sustainability reporting for internal and external use. [Click here](#) to view the full article.

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Virtual communities as an organizational mechanism for embedding knowledge in drug discovery: The case of chemical biology platform

by Vadake K. Narayanan, Frank Douglas, Daniel Schirlin, Gunther Wess, Dennis Geising

In this paper, we document the lessons from the development of chemical biology platform in a major pharmaceutical company, and the outcomes of the early phases of this experiment. Although the concept of chemical biology is not new, its evolution and deployment in the drug development process is relatively new. The present experiment thus has to deal with both the scientific novelty of

chemical biology, and organizational challenge of embedding it in the ongoing process of drug development. The notion of virtual communities or platforms overlaid on the traditional matrix of drug development served to introduce the approach, with some remarkable outcomes. [Click here](#) to view the full article.

Correlation between sales and profit development and ownership type in the Chinese chemical industry

by Kai Pflug

This paper examines the correlation between ownership type of chemical companies in China and the development of their sales and profit in the period from 2006 to 2012. Data from China's statistical yearbook for the industry segment "Manufacture of Raw Chemical Materials and Chemical Products" was used, which covers all larger companies with annual sales above about 20 million RMB of sales (more than 20,000 companies in the segment). The results show a strong correlation between ownership type and growth in profit and sales.

Private domestic companies perform best, achieving sales and profit growth rates that are substantially above the industry average. In contrast, the performance of foreign-owned chemical companies is slightly below industry average while the results of state-owned chemical enterprises are substantially below industry average. Possible reasons for the difference in performance are given, and consequences for the different ownership types are discussed. [Click here](#) to view the full article.

Chemicals & Materials Index

(\$ in millions, except share price)

	Share Price	% of 52 Week High	Market Cap	Enterprise Value	LTM		YoY Revenue Growth	EBITDA Margin	Enterprise Value/LTM	
Company Name					Revenue	EBITDA			Revenue	EBITDA
Commodity Chemicals										
Air Liquide	\$126.14	94.1%	\$53,854	\$73,046	\$23,286	\$5,544	21.6%	23.8%	2.98x	12.5x
Air Products and Chemicals	164.08	99.6%	35,904	36,311	8,522	2,661	13.3%	31.2%	4.43x	13.7x
Braskem	12.94	78.9%	10,388	18,255	15,417	3,649	5.3%	23.7%	1.24x	5.2x
Cabot Corporation	61.59	95.3%	3,815	4,607	2,717	494	12.3%	18.2%	1.70x	9.2x
Formosa Plastics Corporation	3.33	99.9%	21,179	19,612	6,725	1,012	21.0%	15.0%	2.85x	9.9x
Fuchs Petrolub	53.55	86.2%	7,095	6,967	2,867	483	19.8%	16.8%	2.39x	13.5x
K+S	24.90	83.2%	4,765	7,837	4,180	582	14.5%	13.9%	1.85x	13.3x
Linde	217.00	93.7%	40,284	49,495	20,425	4,338	14.2%	21.2%	2.39x	11.2x
LyondellBasell Industries	110.32	98.8%	43,517	49,952	33,096	6,261	13.4%	18.9%	1.51x	7.6x
Mexichem	2.48	90.7%	5,197	8,421	5,641	1,063	5.4%	18.8%	1.61x	8.6x
North Huajin Chemical Industries	1.46	63.3%	2,343	3,752	4,825	754	15.1%	15.6%	0.76x	4.9x
Olin Corporation	35.58	94.8%	5,922	9,430	6,034	884	8.7%	14.6%	1.56x	10.6x
Quaker Chemical Corporation	150.79	90.9%	2,005	1,981	800	107	7.2%	13.4%	2.48x	18.0x
SK Chemicals	78.82	97.2%	1,508	4,609	6,722	274	24.0%	4.1%	0.64x	11.1x
Trinseo	72.60	96.5%	3,173	4,027	4,264	505	14.7%	11.8%	0.94x	6.4x
Ultra-Petroleum	9.06	66.6%	1,779	3,908	780	562	19.8%	72.1%	5.01x	6.9x
Westlake Chemical Corporation	106.53	99.1%	13,754	16,908	7,766	1,631	53.0%	21.0%	2.18x	10.3x
Specialty Chemicals										
A. Schulman	\$37.25	93.5%	\$1,089	\$2,083	\$2,536	\$197	3.6%	7.8%	0.85x	10.6x
Akzo Nobel	87.68	87.9%	22,150	24,731	17,168	2,422	14.6%	14.1%	1.42x	9.9x
Albemarle Corporation	127.89	88.2%	14,131	15,016	2,911	778	8.7%	26.7%	5.16x	17.7x
Ashland Global Holdings	71.20	55.5%	4,430	6,683	3,260	550	(34.5%)	16.9%	2.05x	12.2x
Celanese Corporation	107.08	97.6%	14,524	17,864	6,140	1,227	13.9%	20.0%	3.05x	13.3x
Chugoku Marine Paints	8.37	88.5%	548	448	712	59	(6.2%)	8.3%	0.63x	7.6x
Clariant	27.96	97.2%	9,061	10,879	6,346	837	10.3%	13.2%	1.74x	11.7x
DSM	95.67	97.1%	16,320	17,306	10,012	1,442	19.7%	14.4%	1.70x	6.8x
Ecolab	134.18	97.3%	38,767	46,192	13,540	2,909	2.9%	21.5%	3.41x	15.9x
Elementis	3.89	89.8%	1,807	2,133	740	134	12.2%	18.1%	2.77x	15.3x
Evonik Industries	37.73	95.3%	17,581	21,309	16,614	2,652	23.6%	16.0%	1.26x	8.0x
Ferro Corporation	23.59	92.5%	1,978	2,629	1,301	183	13.6%	14.0%	2.02x	14.4x
Ferrovia	22.72	90.9%	16,586	23,461	14,484	1,131	27.5%	7.8%	1.59x	16.2x
H.B. Fuller Company	53.87	91.7%	2,711	3,406	2,306	205	10.1%	8.9%	1.55x	12.6x
Hexcel Corporation	61.85	96.7%	5,556	6,270	1,973	455	(1.5%)	23.1%	3.22x	14.0x
Hitachi Chemical Company	25.69	84.0%	5,350	5,369	5,477	714	20.2%	13.0%	0.98x	7.2x
Kansai Paint	26.00	96.6%	6,688	7,663	3,195	453	15.3%	14.2%	2.40x	15.8x
Kraton Corporation	48.17	94.0%	1,508	3,148	1,910	305	9.5%	16.0%	1.65x	10.3x
Morgan Advanced Materials	4.56	99.7%	1,298	1,585	1,341	188	9.8%	14.0%	1.14x	8.1x
NewMarket Corporation	397.39	82.1%	4,710	5,217	2,140	386	4.4%	18.0%	2.44x	13.5x
Nippon Paint Holdings	31.65	78.9%	10,151	10,507	5,146	1,043	0.0%	20.3%	1.97x	9.6x
Novozymes	57.17	98.3%	19,817	20,086	2,314	813	15.3%	35.1%	8.55x	24.4x
PolyOne Corporation	43.50	93.0%	3,515	4,634	3,230	407	(3.3%)	12.6%	1.31x	11.3x
PPG Industries	116.82	97.5%	29,728	32,209	14,750	2,516	(0.0%)	17.1%	2.15x	12.6x
RPM International	52.42	92.8%	7,000	8,938	5,176	672	6.5%	13.0%	1.77x	13.7x
Sanyo Chemical Industries	52.38	87.4%	1,155	1,173	1,387	179	7.7%	12.9%	0.85x	6.2x
Shenzhen Capchem Technology	3.21	66.5%	1,213	1,215	279	63	21.9%	22.4%	4.53x	20.5x
The Sherwin-Williams Company	410.04	98.6%	38,344	49,086	14,984	2,143	26.4%	14.3%	3.56x	22.0x
Toray Industries	9.43	88.0%	15,088	21,764	18,806	2,213	8.9%	11.8%	1.16x	9.5x
W. R. Grace & Co.	70.13	90.6%	4,752	6,152	1,698	375	6.2%	22.1%	3.62x	15.2x
Wacker Chemie	194.76	98.2%	9,676	10,307	6,701	1,252	17.5%	18.7%	1.51x	8.0x
Diversified Chemicals										
3M Company	\$235.37	96.4%	\$140,188	\$148,493	\$31,657	\$8,641	5.1%	27.3%	4.79x	17.0x
Arkema	121.94	91.8%	9,220	10,707	9,716	1,611	22.2%	16.6%	1.08x	6.5x
BASF	110.23	93.8%	101,244	117,018	74,722	13,626	23.0%	18.2%	1.54x	8.2x
DowDuPont	71.22	96.4%	166,654	190,288	55,438	9,713	15.1%	17.5%	3.43x	18.4x
Eastman Chemical Company	92.64	97.6%	13,316	19,891	9,375	2,227	4.1%	23.8%	2.12x	8.9x
FMC Corporation	94.66	98.6%	12,709	14,337	3,331	749	1.5%	22.5%	4.30x	19.1x
Huntsman Corporation	33.29	98.5%	7,990	10,905	10,198	1,165	5.6%	11.4%	1.07x	9.3x
Kemira	13.81	92.4%	2,104	2,959	2,894	315	15.9%	10.9%	1.01x	9.2x
LANXESS	79.60	93.8%	7,285	11,434	10,923	1,193	34.4%	10.9%	1.03x	9.4x

Chemicals & Materials Index

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Company Name	Share Price	% of 52 Week High	Market Cap	Enterprise Value	LTM		YoY Revenue Growth	EBITDA Margin	Enterprise Value/LTM	
					Revenue	EBITDA			Revenue	EBITDA
Mitsubishi Chemical Holdings Corporation	10.98	98.2%	15,801	32,108	31,922	4,586	9.0%	14.4%	1.01x	6.7x
Monsanto Company	116.78	95.1%	51,477	57,851	14,648	4,140	5.1%	28.3%	3.95x	13.9x
Pidilite Industries	14.14	92.9%	7,252	7,018	923	210	12.6%	22.7%	7.89x	35.7x
Solvay	139.17	87.8%	14,366	19,127	14,265	2,587	18.5%	18.1%	1.32x	7.1x
Sumitomo Chemical	7.19	92.2%	11,751	20,720	18,719	2,580	14.2%	13.8%	1.11x	7.0x
Ingredients Chemicals										
Balchem Corporation	\$80.60	90.1%	\$2,580	\$2,780	\$576	\$138	4.2%	24.0%	4.82x	20.2x
Cambrex Corporation	48.00	76.3%	1,573	1,455	530	176	8.0%	33.2%	2.75x	8.3x
Chr. Hansen Holding	93.86	99.0%	12,349	13,103	1,281	424	24.1%	33.1%	10.28x	30.9x
Frutarom Industries	93.63	99.1%	5,572	6,130	1,294	250	12.8%	19.3%	4.65x	23.9x
Givaudan	2,310.79	98.0%	21,296	22,763	5,183	1,048	12.9%	20.2%	4.61x	22.3x
International Flavors & Fragrances nc.	152.61	97.4%	12,053	13,416	3,307	697	6.1%	21.1%	4.06x	19.2x
Sensient Technologies Corporation	73.15	86.1%	3,180	3,783	1,364	262	(1.4%)	19.2%	2.77x	14.5x
Symrise	86.00	98.0%	11,164	12,948	3,372	702	10.0%	20.8%	3.65x	17.5x
Chemicals Distribution										
Aceto Corporation	\$10.33	46.1%	\$311	\$568	\$696	\$74	27.2%	10.6%	0.82x	7.4x
Brenntag	63.36	93.7%	9,790	11,692	13,594	959	22.7%	7.1%	0.85x	12.0x
IMCD	62.96	93.8%	3,301	3,780	2,017	182	11.2%	9.0%	1.78x	19.7x
Monsanto Company	116.78	95.1%	51,477	57,851	14,648	4,140	5.1%	28.3%	3.95x	13.9x
Nagase & Co.	18.04	93.5%	2,275	2,761	6,741	279	10.4%	4.1%	0.41x	9.7x
Nexeo Solutions	9.10	91.5%	817	1,609	3,637	164	252.1%	4.5%	0.44x	9.8x
Sinochem International Corporation	1.30	65.1%	2,708	6,438	7,027	467	20.0%	6.6%	0.90x	13.5x
Univar	30.96	93.4%	4,364	7,045	8,107	484	0.4%	6.0%	0.87x	14.6x
Mean		90.70%					15.10%	17.70%	2.46x	12.8x
Median		93.70%					12.50%	16.90%	1.81x	11.8x

Source: Bloomberg, CapitalIQ and company filings, as of 12/31/2017

Commodity Chemicals

Specialty Chemicals

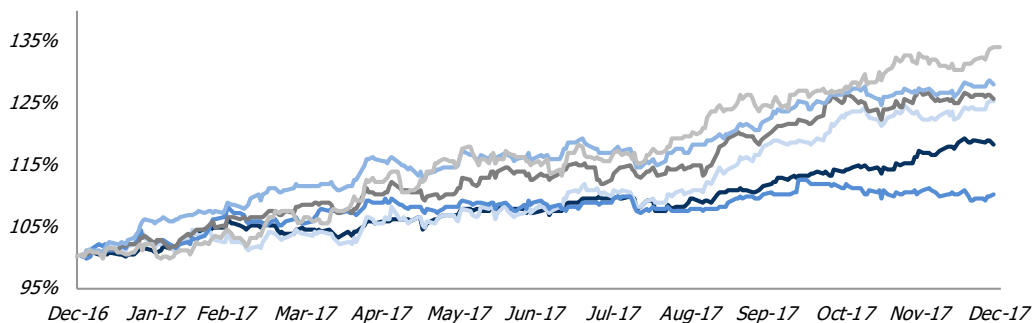
Diversified Chemicals

Ingredients Chemicals

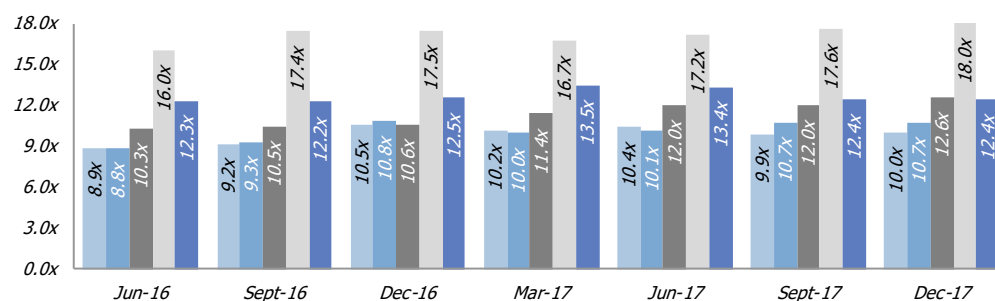
Chemicals Distribution

S&P 500

Chemicals & Materials Index – LTM Relative Stock Price Performance



Chemicals & Materials Index – LTM TEV / EBITDA Multiples



Hovione 

has sold its China subsidiary



to the controlling shareholder of an undisclosed Chinese publicly traded company



Hovione's Sale of iMAX Diagnostic Imaging

Description

Hovione Group, a global pharmaceutical company based in Portugal, has divested its Chinese subsidiary, iMAX Diagnostic Imaging Holding, Ltd. ("iMAX" or the "Company"). iMAX is a leading provider of generic contrast media APIs, including iohexol and iopamidol, and related drug products. The Company's long-term customers include both domestic and international blue-chip generic contrast media drug manufacturers. iMAX had achieved impressive growth under new management, seeing EBITDA double from FY2014 to FY2017.



Iohexol iMAX Solution

Lincoln Approach & Results

Lincoln worked closely with the target's management on carve-out related adjustments and arrangements, performed detailed growth analyses, including a bottom-up forecast model supported by industry research, and managed a 2-stage bidding process. Lincoln's process ensured the maintenance of competitive dynamics among buyers until final SPA negotiation, resulting in favorable commercial, legal and financial terms for the seller.

iMAX was sold to the undisclosed controlling shareholder of a listed generic contrast media API manufacturer in China. The transaction provided value to both sides, with the seller achieving a premium valuation and the buyer further cementing its market leadership. The deal closed on December 21st, 2017, just 14 business days after signing.

Italmatch Chemicals 

a portfolio company of

ARDIAN

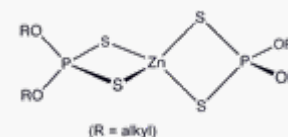
has acquired



Italmatch's Acquisition of Detrex

Description

Italmatch Corporation, a manufacturer and distributor of performance additives and subsidiary of Ardian, has acquired Detrex Corporation ("Detrex" or the "Company"), a publicly-traded company. Detrex, through its subsidiary The Elco Corporation, is a leading technology-driven producer of performance additives for lubricants, industrial water and process treatment, oil & gas and plastics applications. The Company's product capabilities focus on zinc dialkyldithiophosphates (ZDDP), phosphorous friction modifiers, corrosion inhibitors and hydrochloric acid, among others.



Lincoln Approach & Results

Italmatch was looking to broaden its global reach, and in particular, expand its presence in the American chemicals market. Italmatch had been in frequent contact with Detrex over the years and expressed interest in its Elco subsidiary. In January 2012, Lincoln had represented Detrex in the sale of its subsidiary, Harvel Plastics, to Georg Fischer AG. In the intervening years, Detrex implemented an innovative environmental defeasance structure which enabled the Company to isolate potential environmental liabilities.

Detrex ran a competitive auction to sell itself together with its subsidiary, the Elco Corporation. Lincoln was able to provide unique intelligence and valuation expertise throughout the process. Italmatch entered into negotiations with Detrex which resulted in the granting of exclusivity over strong competitors and led to a successful outcome. Italmatch completed the acquisition of Detrex in December 2017.

Lincoln served as a financial advisor for each of the above transactions.

M&A Transaction Recap (Selected Announced Transactions)

Date	Target Company	Target Description	Acquiring Company
17-Dec	PT Arbe Styrimdo and PT ABS	Manufactures copolymers and resins	Lotte Advanced Materials
17-Dec	EMSEAL Joint Systems	Manufactures pre-compressed sealants and expansion joints	Sika
17-Dec	Omni Plastics	Manufactures custom compounded thermoplastics	Celanese Corporation
17-Dec	Raj Petro Specialties	Manufactures transformer oils, process oils/gels and lubricants	Brenntag
17-Dec	Synthesia Espanola	Manufactures polyols and resin	Kingspan Group
17-Dec	Albemarle Corporation	Albemarle Corporation, Polyolefin Catalysts Business in U.S. and S. Korea	W. R. Grace & Co.
17-Dec	Elementis Specialties Netherland	Manufactures specialty chemicals and surfactants products	Kolb Distribution
17-Dec	IonPhasE	Manufactures static dissipative polymer additives	Croda International
17-Dec	Plasticolor Sweden	Manufactures color masterbatches and additives	Nexam Chemical
17-Dec	Benvic Europe	Manufactures PVC compounds in powder and granule forms	Endowment Strategies
17-Dec	Koninklijke Drukinktfabrieken Van Son	Manufactures inks for commercial presses	T&K Toka Co.
17-Nov	3M	3M, High-Concentrates Additive Compounding Business in Germany	Evonik Industries
17-Nov	V.Powdertech	Manufactures powder coatings	Akzo Nobel
17-Nov	QCP	Develops circular polypropylene copolymers and polyethylene compounds	LyondellBasell Industries
17-Nov	Botanical Resources Australia	Manufactures natural insecticide ingredient Pyrethrins	Sumitomo Chemical Company
17-Nov	RCMA Group	RCMA Group, Polymer Division in Singapore	GMG Global, G.P. Sentosa, Centrotech
17-Nov	Clopay Plastic Products Company	Manufactures specialty films, extrusion coatings and engineered laminations	Berry Global Group
17-Nov	Solvay	Solvay, Phosphorus Chemicals Business in the U.S.	LANXESS Aktiengesellschaft
17-Nov	Protex Canada	Manufactures automotive paint protection films	XPEL Technologies
17-Nov	Evermore Chemical Industry Co.	Manufactures synthetic leather polyurethane resins	Aica Kogyo Company
17-Nov	Detrex Corporation	Manufactures lubricant additives, hydrochloric acid and specialty chemicals	Italmatch USA Corporation
17-Nov	Asahi Kasei Corporation	Asahi Kasei Corporation, thermoplastic styrene elastomer business in Japan	Mitsui Chemicals
17-Nov	Ranbar Electrical Materials	Manufactures resin, varnish and coatings	Gabriel Performance Products
17-Nov	Schirm	Manufactures agricultural chemicals	AECI Mauritius
17-Nov	Nu-West Industries / Nu-West Mining	Manufactures mono-ammonium phosphate and phosphoric acid	Itafos
17-Nov	IPS Corporation	Manufactures solvent cements, primers and sealants	Encapsys
17-Nov	European Carbon Fiber	Manufactures precursors for carbon fiber	Solvay
17-Oct	Carolina Color Corporation	Manufactures color concentrates for plastics	Arsenal Capital Partners
17-Oct	Breen Color Concentrates	Manufactures custom color and additive concentrates for plastics	Arsenal Capital Partners
17-Oct	TECH BLEND	Manufactures specialty black concentrates and additives	Cabot Corporation
17-Oct	Butterfield Color	Manufactures concrete coloring, sealing and stamping products	Sika
17-Oct	Blue Grass Chemical Specialties	Manufactures chemical products for contract manufacturing	Signet Enterprises
17-Oct	Van Son Liquids	Manufactures printer ink	Siegwerk Druckfarben
17-Oct	Bayer	Bayer, Selected Crop Science businesses in Germany	BASF
17-Oct	Azzurro Corporation	Distributes chemicals	Sanyo Trading Co.
17-Oct	DowDuPont	DowDuPont, Polyvinylidene Chloride Business in the U.S.	SK Global Chemical
17-Oct	LaPolla Industries	Manufactures foam, coatings and equipment	Icynene
17-Oct	Norac Additives	Manufactures PVC additives	Peter Greven
17-Oct	PRPC Polymers	Produces polymers and glycol	Aramco
17-Oct	Accella Performance Materials	Manufactures custom formulated polyurethane systems	Carlisle Construction Materials

Market Intelligence

10/4/2017: A. Schulman, a manufacturer and supplier of plastic compounds and resins, is exploring a potential sale. The company has over \$203 million of EBITDA for 2017.

11/14/2017: Emeraude International, a distributor of polyolefins and thermoplastics, is seeking acquisitions in the United States and Asia as part of an ambitious strategy to expand operations into new markets.

11/21/2017: Axalta, a manufacturer of coatings for the transportation industry, continues to seek strategic alternatives after failed merger talks with Akzo Nobel. The company had over \$4.3 billion in revenue for 2017.

11/23/2017: Telco, a distributor of industrial chemicals and plastics, is seeking

acquisition opportunities in the chemicals distribution space. The company has net sales of EUR 300 million – 350 million.

12/22/2017: Akzo Nobel, Specialty Chemicals Business Unit has received initial bids from multiple private equity firms, including consortia led by KKR, CVC, Bain and Advent. Initial valuations are EUR 9 billion - 10 billion, or 9.3x – 9.8x EBITDA of EUR 970 million.

12/25/2017: Nippon Paint, a manufacturer of paints and coatings for the automotive and industrial markets, is actively pursuing large-sized M&A opportunities in the United States and Europe. Desired targets include manufacturers of paint materials for construction and cars.

Source: Mergermarket, CapitalIQ, company filings, investor presentations and earnings transcripts

Global Industry Groups

Business Services
Consumer
Energy, Power & Infrastructure
Healthcare
Industrials
Technology, Media & Telecom

Global Locations

Amsterdam
Beijing
Chicago
Dallas
Frankfurt
London
Los Angeles
Madrid
Milan
Moscow
Mumbai
Munich
New York
Paris
San Francisco
São Paulo
Tokyo
Vienna
Zurich

Advisory Services

Mergers & Acquisitions
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Lincoln International specializes in merger and acquisition advisory services, debt advisory services, private capital raising and restructuring advice on mid-market transactions. Lincoln International also provides fairness opinions, valuations and joint venture and partnering advisory services on a wide range of transaction sizes. With nineteen offices in the Americas, Asia and Europe, Lincoln International has strong local knowledge and contacts in key global economies. The firm provides clients with senior-level attention, in-depth industry expertise and integrated resources. By being focused and independent, Lincoln International serves its clients without conflicts of interest. More information about Lincoln International can be obtained at www.lincolninternational.com.

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