ISSUE 17
March 2021

PIPER | SANDLER

Chemicals M&A Review

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Highlights

- M&A rebound continues with volumes and value back to pre-Covid levels
- Corporate profits continue to rise for specialty chemical companies
- Trading multiples near all time highs while average transaction valuations at 20 year highs
- Asia and US regions now account for more than 80% of all chemicals M&A

BainCapital
Cinven
are acquiring the
Specialty Ingrediens business of
Lonza
Financial Advisor

AEA
has acquired
VERDESIAN
from
PAINE SCHWARTZ PARTNERS
Financial Advisor

GRYPHON INVESTORS
has acquired
KANO
from the founders
Financial Advisor

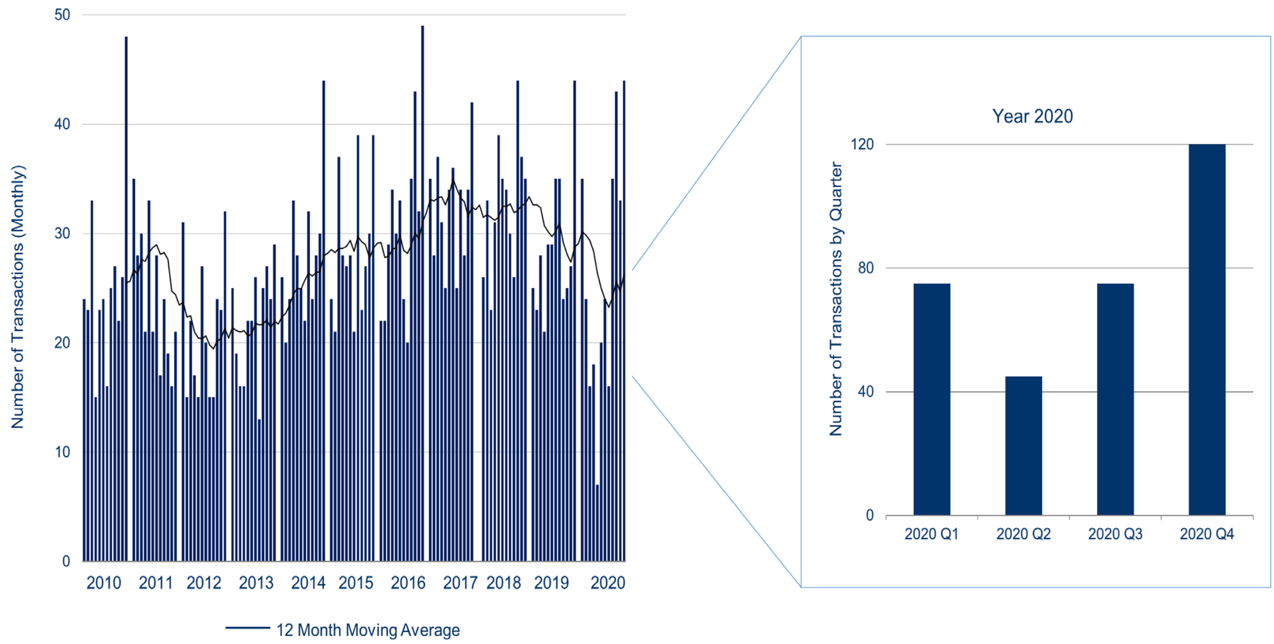
MOMENTIVE
jointly owned by
KCC
SJL PARTNERS
is selling its
Consumer Sealant business to
Henkel
Financial Advisor

Chemical Companies Valuations and Profits

It would have been a bold prediction, while in the middle of the global pandemic, to say that chemical company M&A transactions would recover so quickly in Q4 of last year to reach the same average volumes of the last 10 years. But that is where we ended 2020. Quite a turnaround from earlier and probably unexpected by many in the industry. The initial months of 2021 have continued the trend with high transaction volumes as the world slowly eases out of lockdowns.

As shown in Figure 1 the global M&A monthly transaction volumes declined to all time lows in May 2020, before strongly rebounding in Q3 and Q4. Volumes of deals in Q4 were at levels that we have typically witnessed over the last years with no appreciable drop in activity. This is quite remarkable, bearing in mind many countries were almost closed to travel. Site visits, management presentations and all the associated activity had to be re-routed through video calls or drones with only limited face to face interaction.

Figure 1: Monthly Chemicals M&A Volumes



The Valence Group of Piper Sandler and Capiq analysis. Deals above $10m

The overall deal value for 2020 was also in the range of the last few years. Excluding the occasional "elephant deal" such as DuPont-Dow and Aramco-Sabic, the average total transaction value for chemicals M&A is approximately $80bn per year.

Last year was close to $70bn which is all the more noteworthy considering that Q2 was so weak. As shown in Figure 2, 2020 does not seem exceptional at all in terms of M&A activity. Of course, closer inspection of the detail does show a drop in volume for very small deals and larger deals. The latter likely caused by some reluctance by larger companies to undertake a transformational transaction during a pandemic.

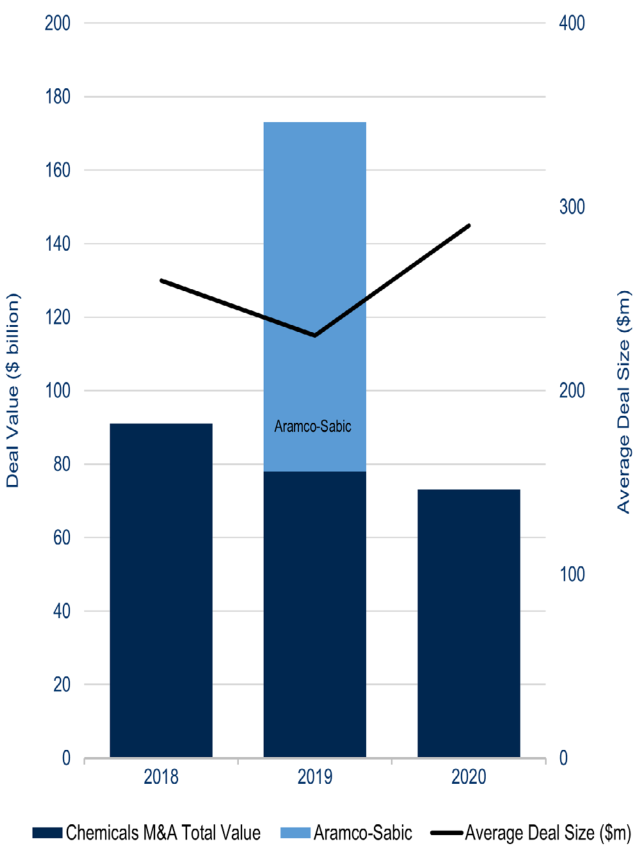
Small deals will have been also impacted by travel restrictions and funding needs. The overall result was total deal value last year was close to recent levels, but average deal size was considerably greater at more than $300m. This is one of the highest levels in the last decade.

The signs are that Q1 this year has seen a strong start with notable transactions such as

- **Trinseo-Arkema PMMA**
- **PPG-Tikkurila**
- **Ashland-Schuelke and Mayr (Personal Care)**
- **AEA-Verdesian**
- **Lanxess-Emerald Kalama**
- **Bain Capital/Cinven – Lonza Specialities**

We have also seen a very strong rebound in Asia. China in particular has seen an exceptionally strong first few months, with data from Refinitiv indicating the first 10 weeks of 2021 were the strongest ever for domestic Chinese M&A (all sectors). As reported

Figure 2: Total Chemicals M&A by Value (US$ basis)



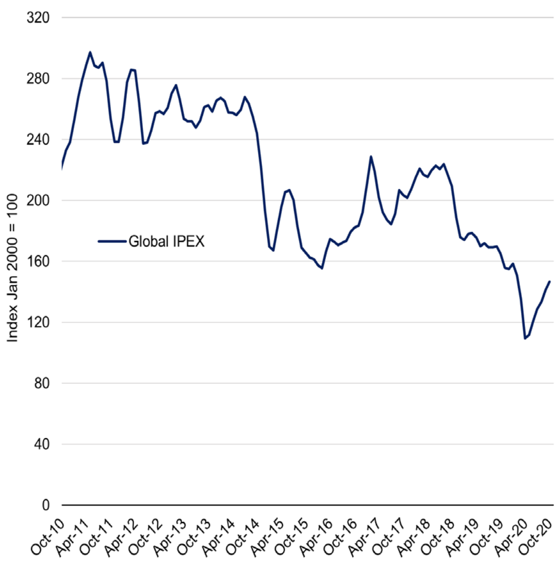
The Valence Group of Piper Sandler and Capiq analysis. Excluding transactions <$20m.

in the media, companies from other Asian countries have also been active in chemical M&A recently, further underpinning the strength of the market. Most chemicals M&A in 2020 was Asia-based with more than 60% of all deals originating in the region and this appears to continue. Therefore as outlined in the next section, there are good reasons to expect the level of activity to be higher than in the past few years.

Profits and Valuations

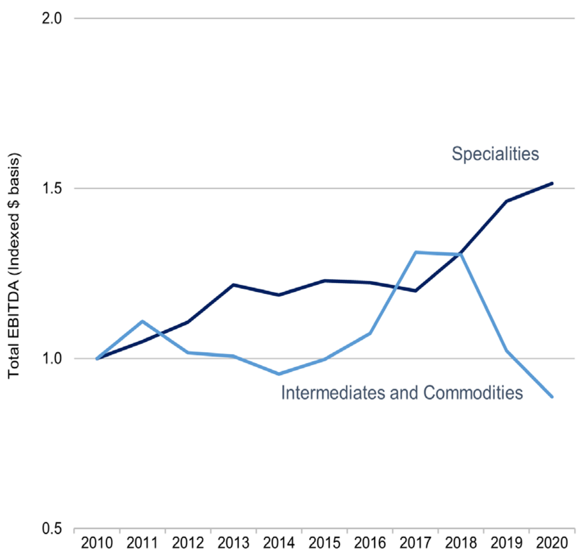
Maybe one of the most surprising aspects of 2020 has been the strength of corporate profits in the chemical industry. Despite huge GDP contractions in some sectors of the economy, and indeed in some countries and regions, chemical company profits have remained strong across many segments. There are several reasons for this, including lower commodity chemical prices as shown in Figure 3. Raw material prices for many chemical companies in 2020 were at near all time lows. Clearly this was on the back of low oil and gas prices which remained depressed throughout most of the year. Lower overall demand and poor supply/demand economics for many chemicals also contributed.

Figure 3: Chemical Product Pricing (IPEX)



ICIS analysis. Excluding transactions <$20m.

Figure 4: Chemical Company Total EBITDA Trend by Sector



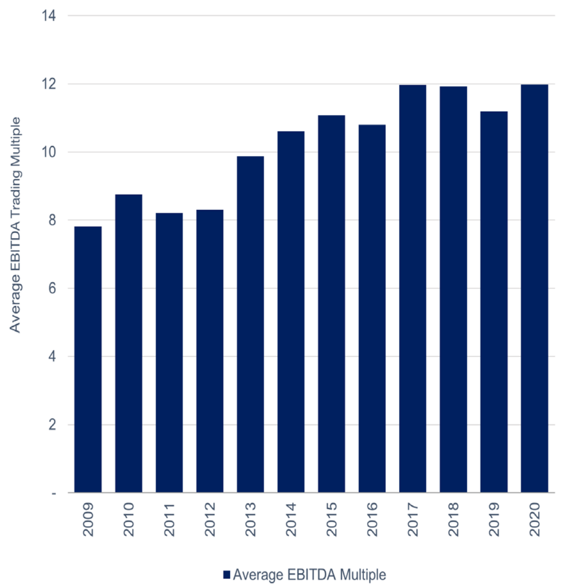
The Valence Group of Piper Sandler and Capiq analysis.

This balance between oil price and supply/demand is difficult to forecast, although with oil price rising and demand increasing, we would expect some increase in input pricing (and this is already showing in some commodity pricing).

The impact on overall chemical company profits is highlighted in Figure 4. We have aggregated commodities/intermediates and all mid/higher tier specialty chemicals together to better delineate the trend between the two groups. Unsurprisingly, profit in specialties has been strong especially in the last few years. Specialties have benefitted partially from the lower raw material costs but this has been combined with the consolidation in the sector and improved pricing power.

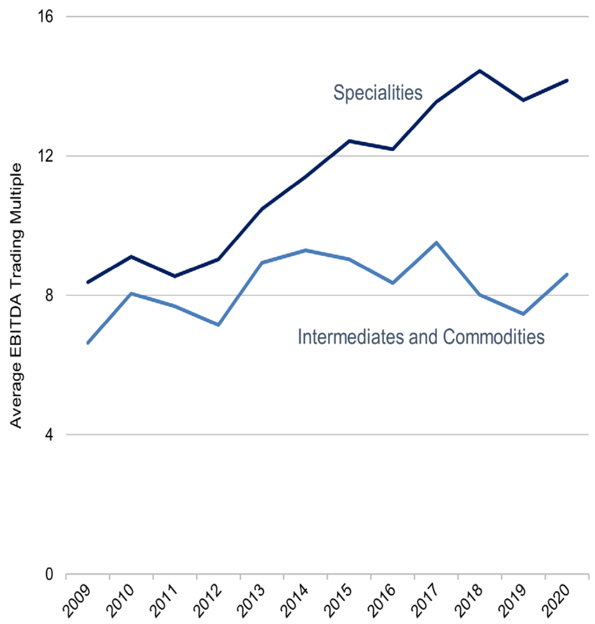
These profit dynamics have also fed through to valuations. Trading multiples for chemical companies reached a near all time high in 2020 (Figure 5). This has been attributed to increasing profits in the sector, combined with low interest rates and expectations of demand supporting equity markets. In particular, specialty chemical trading multiples have continued to climb to unseen levels and have now almost doubled in the last 10 years. We have again aggregated all specialty chemical type companies to show the trend more clearly in Figure 6 (previous newsletters have shown the difference between high and mid-tier specialty chemicals which shows even higher valuations).

Figure 5: Chemical Company Trading Multiples



The Valence Group of Piper Sandler and Capiq analysis. Based on c. 90 mainly US and European chemical companies

Figure 6: Trading Multiples by Chemical Segment

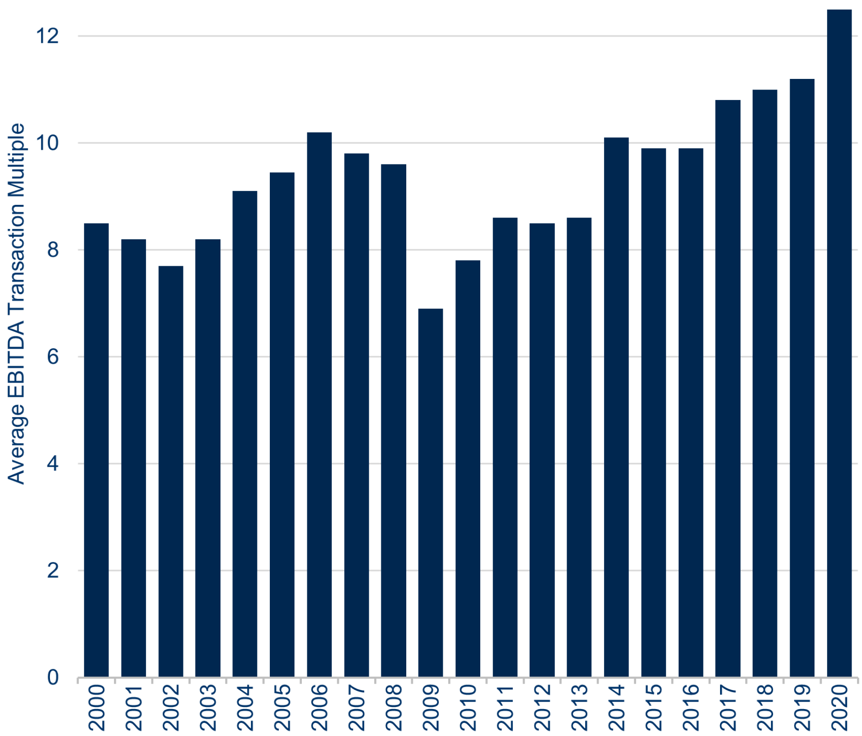


The Valence Group of Piper Sandler and Capiq analysis. Based on c. 90 mainly US and European chemical companies

We would expect that as 2021 progresses, chemical company profits will improve and will catch-up with the forward looking current stock prices. This should moderate the level of the trading multiples, but it will also probably increase the divergence between specialty and commodity chemical valuations. There is no foreseeable reason to see any major change in valuation levels.

More pointedly, transaction EBITDA multiples have shown a similar and even stronger increase in valuations. As shown in Figure 7, transaction multiples have now risen above 12x EBITDA. The key industry fundamentals of increasing consolidation and profits, a shift downstream by chemical companies, more competitive M&A environment with fewer targets and more Asian competition, has propelled chemicals transaction valuations to their highest ever level. Furthermore, both financial sponsors and SPACs, both with an enormous amount of capital to deploy, have underpinned many processes. Now with debt costs so low, they are even able to outbid many strategic/industrial companies as so recently exemplified by the divestment of Lonza Specialty Ingredients to Bain Capital/Cinven. It should be noted that there were fewer commodity chemical deals in 2020 and this will certainly have increased the average multiple paid as the year was skewed more to specialty chemical transactions. Nevertheless, 2021 appears to be on the same trajectory and again, although there may be some marginal decline in overall average valuation, we do not expect any significant change to the current fundamentals and therefore mean EBITDA multiples. Undoubtedly from the transactions where we are currently engaged, there is little to suggest the appetite for acquisitions and valuations has diminished.

Figure 7: Chemical Company Transaction EBTDA Multiples

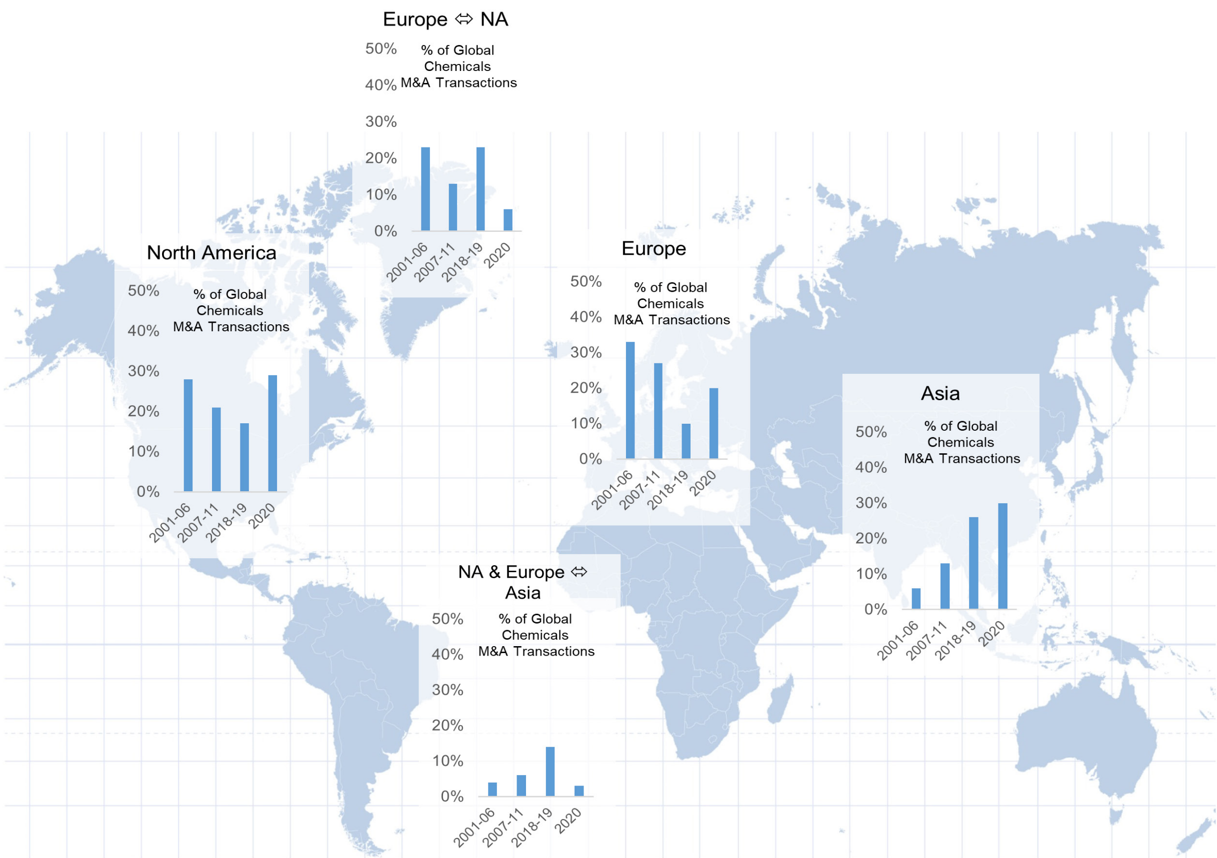


The Valence Group of Piper Sandler internal analysis. Disclosed Transactions > c.$200m

Chemicals M&A - Growth of Asia

Over the last 20 years Asian chemical companies have grown in significance in their regions, with China, SE Asia, Korea and India all becoming important centres for chemicals. Most of the growth at the turn of this century was organic and very much focused on growing business through investment in manufacturing, with areas such as R&D and M&A playing a secondary role. In the last few years that situation has changed, with many Asian companies seeking and making acquisitions in the region and beyond. In parallel, the US energy situation with the advent of shale gas, had started to attract global interest with a corresponding increase in M&A activity by US and foreign companies. The result is that Europe has become less important as a destination for M&A, with fewer transactions by European and foreign companies in the region. In fact, this trend had reached the point by 2019 that less than 10% of all global chemicals M&A was in Europe (see Figure 8).

Figure 8: Value of Chemicals M&A by Region (US$ basis)



The Valence Group of Piper Sandler and Capiq analysis. Excluding transactions <$20m

Less than 15 years ago almost 30% of all worldwide transactions were in Europe and the region was the largest M&A market in the world. Slow GDP growth, regional hurdles, costly energy and raw materials, and increased competition from neighbouring regions all combined to make Europe a less attractive option for acquisition. Of course, many great companies are still based in Europe but many of these companies are global in nature rather than European. Growth in the region appears limited and has discouraged investment.

Asia now accounts for more than 30% of chemicals M&A by value. By volume it is considerably larger as there are many smaller deals, especially in China. Including cross-border transactions involving Asian companies, it is even larger at close to 40% of worldwide M&A. As shown clearly in Figure 8, the value of inter-continental deals with Asian companies has risen from a very low base 15 years ago to now being more than 10% of all transactions. Companies such as Indorama (Thailand), HighSun Group (China) and Petronas (Malaysia) are as likely to be acquirors as the more established companies in Korea and Japan.

Last year Covid-19 changed the dynamic temporarily as travel restrictions limited cross border M&A. This may persist partially through 2021 but the inexorable global expansion of Asian chemical companies will continue. We would expect that within a few years more than 50% of all chemicals M&A will be Asian-based. As consolidation continues in Europe, less than 10% of worldwide transaction value will be intra-regional. The expectation is that 2021 will see a strong M&A market, but US and Asia will lead. It could well be that 2021 turns out to be one of the strongest M&A years ever.

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$11.7 billion

The Carlyle Group GIC

have acquired the
Specialty Chemicals business of

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now known as

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Lead advisor on third largest chemical LBO

$4.7 billion

BainCapital

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are acquiring the
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Piper Sandler acquired the preeminent chemicals M&A firm, The Valence Group, on April 3, 2020. The Valence Group is a specialist investment bank offering M&A advisory services exclusively to companies and investors in the chemicals, materials and related sectors.

The chemicals & materials team includes a unique combination of professionals with backgrounds in investment banking, strategic consulting and senior management within the chemicals and materials industries, all focused exclusively on providing M&A advisory services to the chemicals and materials sector.

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CLARIANT
has sold its Masterbatches business to
PolyOne
Financial Advisor

INDORAMA VENTURES
has acquired the Integrated Oxides and Derivatives Businesses of
HUNTSMAN
Financial Advisor

synthomer
has acquired
OMNOVA SOLUTIONS
Financial Advisor

ARKEMA
has acquired
ArrMaz
from
GOLDEN GATE CAPITAL
Financial Advisor

INEOS
has acquired the Ashtabula, OH Titanium Dioxide plant of
TRONOX
Financial Advisor

SK CAPITAL
has acquired the Performance Products and Solutions Division from
PolyOne
Financial Advisor

CPS PERFORMANCE MATERIALS CORP
a portfolio company of
ARSENAL CAPITAL PARTNERS
has acquired
GEO SPECIALTY CHEMICALS
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GOLDEN GATE CAPITAL
has acquired
ActiveMinerals INTERNATIONAL, LLC
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INEOS
has acquired the Composites business and German BDO plant of
Ashland
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Charlesbank
CAPITAL PARTNERS LLC
has sold
PLASKOLITE
to
PPC Partners
Financial Advisor

DUNES POINT CAPITAL
has sold
MILLER
to
HUBER
Financial Advisor

INEOS
has sold its Melamines & Paraform businesses to
prefere resins
Financial Advisor

THE CARLYLE GROUP GIC
have acquired the Specialty Chemicals business of
AkzoNobel
now known as
Nouryon
Financial Advisor

solenis
a portfolio company of
CLAYTON DUBILIER & RICE
has merged with the Paper and Water Chemicals business of
BASF
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ChemicaInvest
a joint venture of
DSM CVC Capital Partners
has sold
FIBRANT
to
HSC
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US SILICA
has acquired
EP Minerals
a portfolio company of
GOLDEN GATE CAPITAL
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SK CAPITAL
has acquired the Fire Safety and Oil Additives businesses of
ICL
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ITAÚSA
has sold
Elekeiroz
to
H.I.G. CAPITAL
Financial Advisor

EP Minerals
a portfolio company of
GOLDEN GATE CAPITAL
has acquired the Bleaching Clay and Mineral Adsorbents business of
BASF
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ARCHROMA
a portfolio company of
SK CAPITAL
has been recapitalized
Financial Advisor

Quaker
has acquired
HOUGHTON
from
Gulf
Financial Advisor

NMC
NEW MOUNTAIN CAPITAL LLC
has partnered with
Gelest
Financial Advisor

Niacet
has been sold to
SK CAPITAL
Financial Advisor

ROCKWOOD THEBE
have sold
Safripol
to
KAP
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Silica business of
HUBER
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INEOS
has sold its Expandable
Polystyrene business to
synthos
Financial Advisor

eurazeo
has acquired
novacap
a portfolio company of
ARDIAN
Financial Advisor

Arsenal | Capital Partners
has sold
ROYAL ADHESIVES & SEALANTS
to
AMERICAN SECURITIES
Financial Advisor

nubiola
has been sold to
FERRO
Financial Advisor

INEOS SOLVAY
has sold certain Chlorvinyls
businesses as a remedy to secure
European Commission approval of
INOVYN, their planned PVC JV, to
INTERNATIONAL CHEMICAL INVESTORS GROUP
Financial Advisor

DOW
has sold its Sodium Borohydride
business to
Vertellus
a portfolio company of
WIND POINT PARTNERS
Financial Advisor

cbpe capital
has sold
Warwick Chemicals
to
Lubrizol
Financial Advisor

Arsenal | Capital Partners
a portfolio company of
ACCELLA POLYURETHANE SYSTEMS
has sold its Plastisols business to
PolyOne
Financial Advisor

HSC CORPORATION
(Zhangjiagang, China)
has been sold to
CYG
ChangYuan Group
(Shenzen, China)
Financial Advisor

Permira
has acquired
CABB
from
Bridgepoint
Financial Advisor

canexus
has been sold to
CHEMTRADE
Financial Advisor

TESSENDERLO GROUP
has sold its Compounds business to
MITSUBISHI CHEMICAL
Financial Advisor

CYTEC
has sold its Building Block
Chemicals Division to
H.I.G. CAPITAL
Financial Advisor

Niacet
has acquired
ChemSolutions B.V. from
Kemira
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PolyOne
has sold its 50% ownership interest
in SunBelt Chlor Alkali Partnership to
Olin
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