



## European Chemicals Update

Fourth Quarter 2014

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## The Global Omega-3 Market

### Omega-3 Market Introduction and Key Trends

**Driven by a rising global demand for health and nutrition products, the nutraceuticals industry has become one of the most attractive segments of the specialty chemicals market.**

**This edition of the Duff & Phelps European Chemicals Update features a snapshot of the fast growing global Omega-3 market.**

Several thousand academic and clinical studies have investigated the potential health benefits of Omega-3 fatty acids. Most of these studies have flagged Omega-3 as beneficial and highlighted its cardiovascular benefits. Through the increased awareness of its health benefits, Omega-3 has become an increasingly important segment of the dietary supplement, functional food and pharmaceutical markets.

Omega-3 fatty acids (also called n-3 fatty acids) are a group of essential, polyunsaturated fatty acids, which cannot be produced effectively by the human body. Omega-3 fatty acids are typically derived from marine or algae sources.

Herring, anchovies and sardines are the most populous species of cold water oily fish.

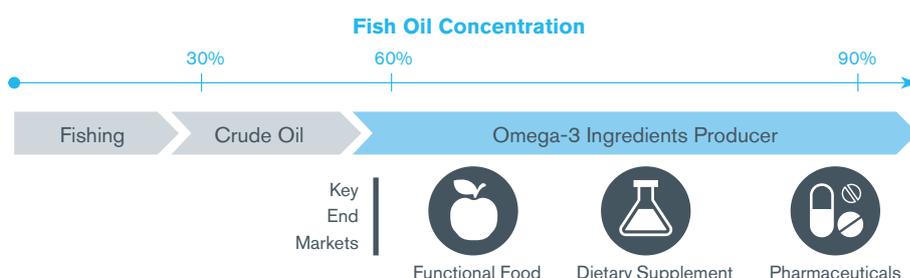
The Omega-3 ingredients producers, including fish oil refiners and fish oil concentrate producers, source the crude oil from fisheries and fish processing companies worldwide.

The major points of differentiation among Omega-3 producers are different purity levels and concentrations of the Omega-3 ingredients, ranging from 18% EPA/DHA in fish oil to more than 90% for pharma grade.

In 2013, the global market for Omega-3 ingredients amounted to USD 2.3bn<sup>1</sup> and may grow significantly potentially fueled by rising popularity of nutraceuticals in industrial countries and an expanding middle class in emerging economies.

The key players in the market as qualified by sales are BASF, FMC, Royal DSM (through its acquisition of Ocean Nutrition Canada and Martek Biosciences in 2011), Croda International, Omega Protein, Tecnologica De Alimento (TASA), Golden Omega, Copeinca / China Fishery and Orkla.

#### Marine-based Omega-3 Value Chain and End Markets



Source: Duff & Phelps

### Selected Transactions

**Omega Protein Corp. has acquired Bioriginal Food & Science Corp.**  
September 2014



Omega Protein has acquired Bioriginal Food & Science, a supplier of plant and marine based specialty oils and essential fatty acids to the food and nutraceuticals industry.

**Total purchase consideration:**  
~EUR 62m (10.8x EBITDA)

Source: Capital IQ

**FMC Corp. has acquired Epax from Trygg Pharma A/S**  
July 2013



FMC has acquired Norway-based Epax, a manufacturer of high purity Omega-3 fatty acid concentrates that are used in the nutraceuticals, pharmaceuticals and food industry.

**Total purchase consideration:**  
~EUR 261m

Source: Capital IQ

**BASF SE has acquired Pronova BioPharma ASA**  
January 2013



BASF has completed the acquisition of Pronova BioPharma, a Norwegian pioneer in the field of research, development, and manufacturing of Omega-3 fatty acids.

**Total purchase consideration:**  
~EUR 695m (6.0x EBITDA)

Source: Capital IQ

<sup>1</sup> Source: Research and Markets "Omega-3 Polyunsaturated Fatty Acids (PUFAs) - A Global Market Overview", February 2014.

## The Global Omega-3 Market

### Interview with Dr. Ralf Fink, General Manager Omega-3, BASF



**Dr. Ralf Fink**  
General Manager Omega-3, BASF

Dr. Ralf Fink is responsible for BASF's global Omega-3 business and is based in Oslo, Norway.

Ralf has more than 16 years of experience in the chemical industry covering a wide variety of functions. He was domestically and internationally responsible for strategy development and implementation in the field of electronic materials and has been a driving force in the pharma ingredients and services segment for years.

Furthermore, Ralf played a significant role in the acquisition and subsequent integration of Merck Electronic Chemicals, Equateq and Pronova BioPharma.

Ralf graduated from Johannes Gutenberg-University in Mainz with a master in organic chemistry and received his Ph.D. in macromolecular chemistry from the University of Bayreuth in 1997. In addition, he completed a post-doctoral fellowship in polymerization in supercritical CO<sub>2</sub> at the University of Pittsburgh.

*The acquisitions of Cognis (2011), Equateq (2012) and in particular Pronova BioPharma (2013) have made BASF a leading supplier of ingredients for the nutrition and health industries, offering a large portfolio of Omega-3 products for the pharmaceutical and dietary supplement industries.*

*Since then BASF has established an "Omega-3 Verbund", focusing on highly concentrated Omega-3 fatty acids.*

**Dr. Fink, can you give an introduction to the overall BASF strategy in the Omega-3 market? How satisfied are you with the current set-up of the BASF Omega-3 business?**

BASF is clearly focused on the attractive market segment for highly concentrated Omega-3 fatty acids used in the dietary ingredients and pharma solutions, supported by proven health claims. The high concentrates segment is characterized by innovation, product differentiation, regulatory know-how and other entry barriers. In this domain, BASF can most effectively realize synergies via its global presence, significant know-how in manufacturing and a long standing expertise in regulatory affairs as well as in R&D by leveraging its deep understanding of the ingredient. Against the background of this strategy we decided and already announced the divestment of our non-core low to medium concentration Omega-3 business located in Brattvaag, Norway. The foundation of our expertise in highly concentrated Omega-3 fatty acids is backed by numerous clinical trials in pharmaceutical and furthermore in nutritional applications.

**Can you share with us some of the key global trends in the Omega-3 industry, which translate into the significant growth of this industry?**

There is a strong underlying trend towards higher concentrates in the dietary and nutritional supplements markets, in particular in North America, as consumers become more educated about the benefits of Omega-3 with 60% to 80% concentration levels. Growth drivers in Asia are more fundamental including the increased health awareness of a growing and wealthier population. We believe that the purity (i.e. the absence of environmental pollutants) of Omega-3 fatty acids will be a major trend and point of differentiation in tomorrow's markets.

**Besides striving for highest purity levels, which innovations in the global nutrition end-markets will have an impact on the Omega-3 industry?**

There is strong clinical evidence for the benefits of Omega-3 fats on the cardiovascular system. However, studies indicate that Omega-3 has additional beneficial health effects on the brain, the eyes and the nervous system. Therefore, BASF is significantly investing in research to further explore and prove the benefits of Omega-3 for the human body.

Moreover, BASF currently focuses on the improvement of the bioavailability of Omega-3 fatty acids. Bioavailability refers to the fraction of the administered dose that reaches the systemic circulation. Around half of the Omega-3 consumed is absorbed by the human body while the other half is just used as an energy source. New formulations currently being developed by BASF will substantially increase bioavailability, leading, for example, to smaller and hence more convenient to take capsules, while enjoying the same or even improved health effects.

Finally, as a pioneer in the field of Omega-3, BASF continuously conducts research and develops new and improved Omega-3 fatty acid based ingredients to meet the future needs in nutritional and pharmaceutical applications.

## The Global Omega-3 Market

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### Interview with Dr. Ralf Fink, General Manager Omega-3, BASF SE

#### **What are key challenges for European Omega-3 ingredients producers?**

The competition in the area of low concentrates has clearly intensified over the last years because the market offers attractive growth rates. The industry's mass product is 18/12 (18% EPA, 12% DHA); crude fish oil is being purified, refined and bleached to achieve an appropriate optical appearance for the consumer. In this segment two main groups of new market entrants exist. First, relatively new entrants into the Omega-3 market are creating complimentary products to their core range in order to diversify.

Secondly, backward integrated players, (i.e. large fisheries and producers of crude oil from their own anchovy catches such as Golden Omega from Chile and TASA from Peru) have also entered or are about to enter this low-to-medium concentrates market segment.

#### **What are your thoughts on raw material availability and price volatility of marine-sourced crude fish-oil?**

Roughly one million tons of crude fish oil are produced annually and only 15% to 20% are used for human consumption. The majority of the remainder is used as fish feed, especially for salmon farming. This is changing as fish farmers become more aware of alternatives to fish oil like rapeseed oil. Hence, marine Omega-3 has a sufficient supply today and in the near future. Being focused on the highest concentrates, new formulations and even chemically optimized Omega-3 products, we do not see the necessity in being backwards-integrated.

#### **Do you expect further consolidation in the Omega-3 industry?**

There have been a number of acquisitions in the past: BASF acquired Pronova BioPharma and Equatec, Royal DSM purchased Ocean Nutrition Canada and Martek Biosciences. At the same time new competitors enter the market because of its attractive growth perspectives. So it is a very dynamic market with a lot of potential.

#### **Dr. Fink, we thank you for this interview.**

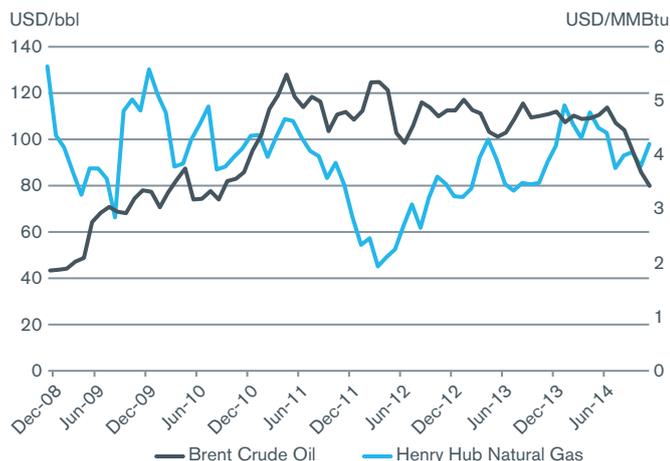
*This interview was conducted on October 20, 2014 with Dr. Fink participating via phone from Shanghai, China.*

# Quarterly Market Review

## Key Raw Materials

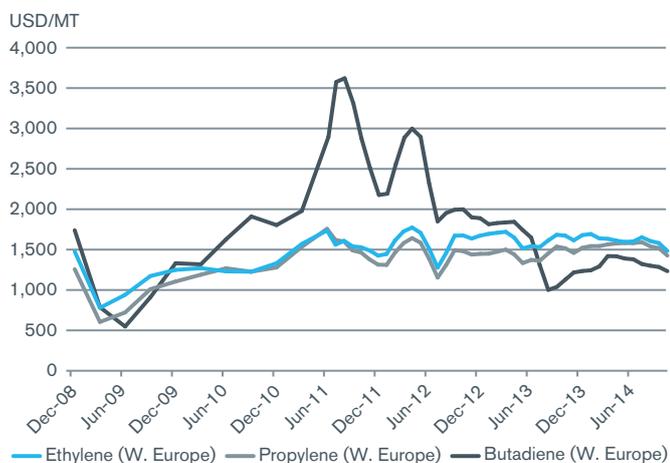
### Petrochemicals

#### Feedstock



Source: Bloomberg as of November 21, 2014

#### Olefins



Source: NEXANT, Bloomberg as of October 31, 2014

#### Aromatics



Source: NEXANT Bloomberg, as of October 31, 2014

#### Key Observations

- Crude oil prices have decreased over the past weeks despite political tensions in the Middle East and Ukraine due to oversupply and concerns over weakening demand
- Aromatics and olefins were lower across the board following sinking upstream crude oil and naphtha rates
- Further downward pressure on benzene prices resulted from increasing supply as downstream demand for styrene floundered
- Ethylene prices trended lower as supplies continued to grow following plant restarts after several production outages and a wave of new U.S. chemicals capacity driven by shale gas
- In plant news, Shell has shut its ethylene and propylene cracker located at Moerdijk, Netherlands (capacity of 900,000 mt/year) following a steam leak in October – the cracker is not likely to resume production this year

### Raw Materials Wrap-Up

Product	Unit	Type	Delivery	Source	Date					Change	
					Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	q-o-q	y-o-y
Naphtha	USD/MT	1 Mo Fwd	CIF NW Europe	Bloomberg	888.1	949.6	912.6	957.2	804.4	(16.0%)	(9.4%)
Methanol	EUR/MT	Spot	FOB Rotterdam	Polymerupdate	371.5	390.0	361.0	275.0	325.0	18.2%	(12.5%)
Acrylic Acid	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	2,283.0	2,179.0	2,199.0	2,141.0	1,903.0	(11.1%)	(16.6%)
Adipic Acid	USD/MT	Contract	DDP W Europe	Tecnon Orbichem	2,270.0	2,268.0	2,379.0	2,311.0	2,161.0	(6.5%)	(4.8%)
Caustic Soda (liquid)	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	688.0	672.0	636.0	585.0	555.0	(5.1%)	(19.3%)
Chlorine (liquid)	USD/MT	Spot	DDP W Europe	Tecnon Orbichem	284.0	291.0	297.0	292.0	277.0	(5.1%)	(2.5%)
Ammonia	USD/MT	Spot	FOB Black Sea	Green Markets	435.0	390.0	500.0	460.0	530.0	15.2%	21.8%
Urea (prill)	USD/MT	Spot	FOB Black Sea	Green Markets	310.0	310.0	325.0	310.0	320.0	3.2%	3.2%

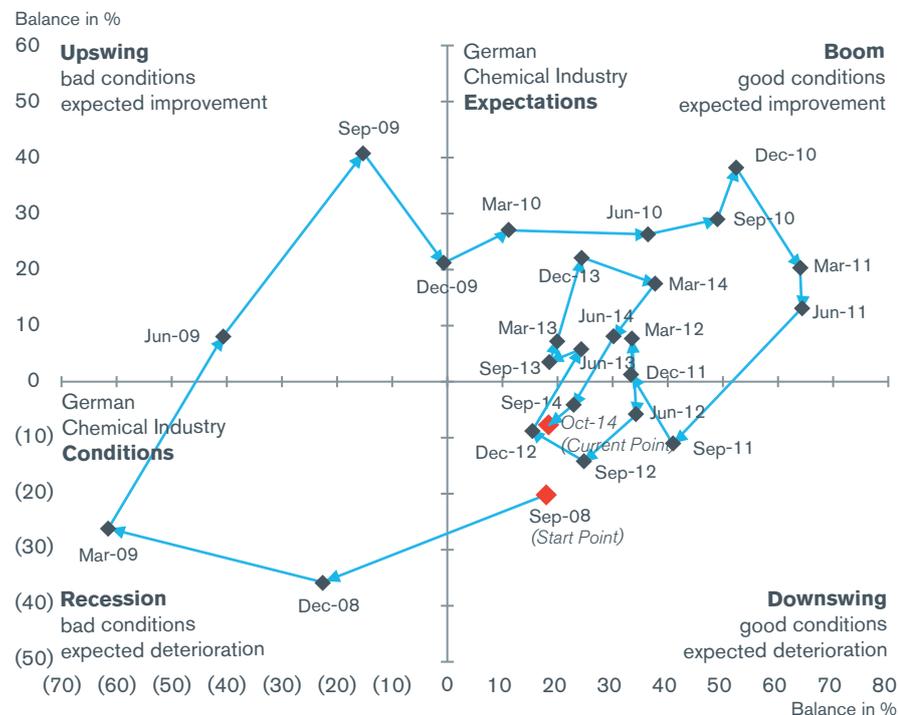
#### Definitions:

MMBtu - 1 Million British thermal units  
 Bbl - barrels  
 MT - Metric tons

# Quarterly Market Review

## Ifo Survey German Chemical Industry

### German Chemical Industry | Ifo Business Cycle Clock

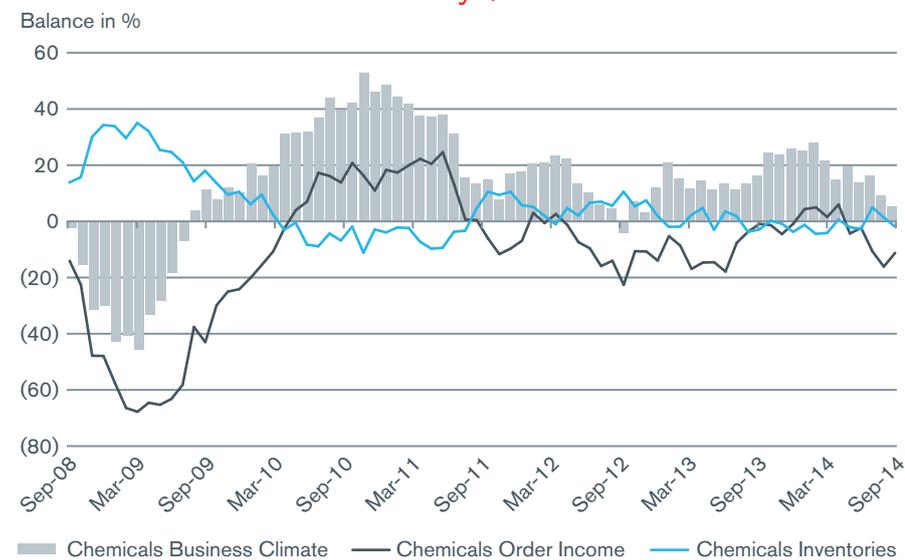


Source: Ifo Institut für Wirtschaftsforschung, Bloomberg as of October 31, 2014

#### Key Observations

- October conditions have contracted month-on-month by 4.4%, which has been the second downward move in a row, however, a value of 18.5% means by definition that the German chemical industry is still in good shape (but also far away from the 2014 maximum value of 37.7% reached in March)
- Expectations have declined from minus 4.1% in September to minus 7.7% in October, which are the first negative values since December 2012 and are likely driven by geopolitical risks and weakness of major trading partners in the Eurozone
- The combination of positive conditions and negative expectations indicates that chemical industry in Germany is currently in a downswing phase

### German Chemical Industry | Ifo Business Indicators



Source: Ifo Institut für Wirtschaftsforschung, Bloomberg as of October 31, 2014

#### Key Observations

- Chemicals business climate level has been lowest in October since December 2012, largely driven by deterioration in expectations
- Inventory trend is recovering (decreasing) the second month in a row (high inventories are not favorable)
- Order income has recovered slightly in October after a significant downward move in September, where it dipped back to the July 2013 value
- A negative order income level indicates that chemical customers are hesitant to place orders

#### Explanatory note

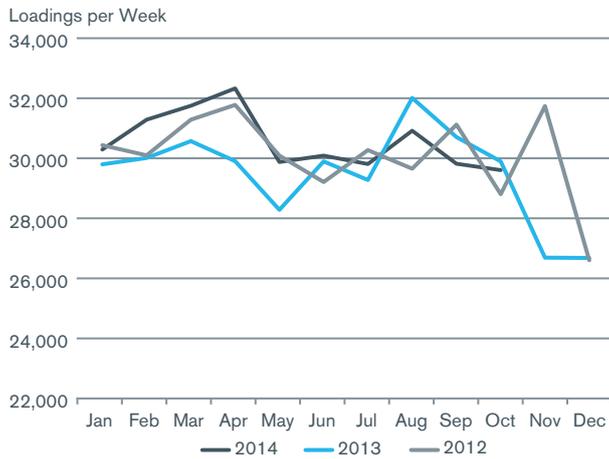
The Ifo Business Climate Index is based on ca. 7,000 monthly survey responses from firms in manufacturing, construction, wholesaling and retailing. The firms are asked to give their assessments of the current business situation and their expectations for the next six months. They can characterise their situation as "good", "satisfactory" or "poor" and their business expectations for the next six months as "more favourable", "unchanged" or "more unfavourable". The balance value of the current business situation is the difference between the percentages of the responses "good" and "poor", the balance value of the expectations is the difference between the percentages of the responses "more favourable" and "more unfavourable". The business climate is a transformed mean of the balances of the business situation and the expectations. For the purpose of calculating the index values, the transformed balances are all normalized to the average of the year 2005.

Source: Ifo Institut für Wirtschaftsforschung

# Quarterly Market Review

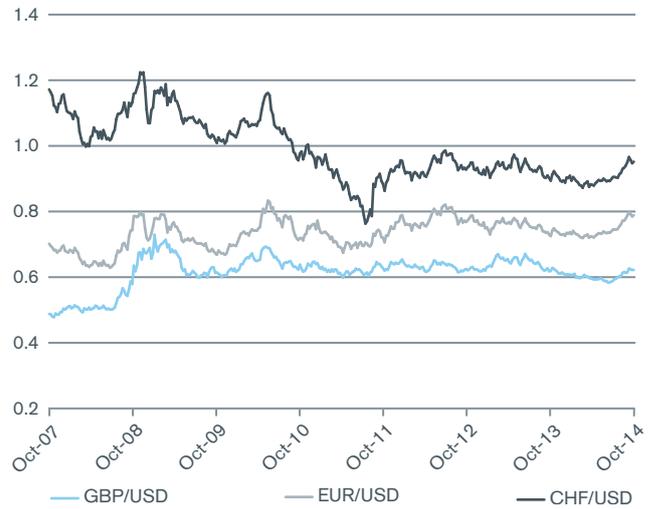
## Economic Environment

### US Weekly Railcar Loadings



Source: Association of American Railroads, Bloomberg as of October 31, 2014

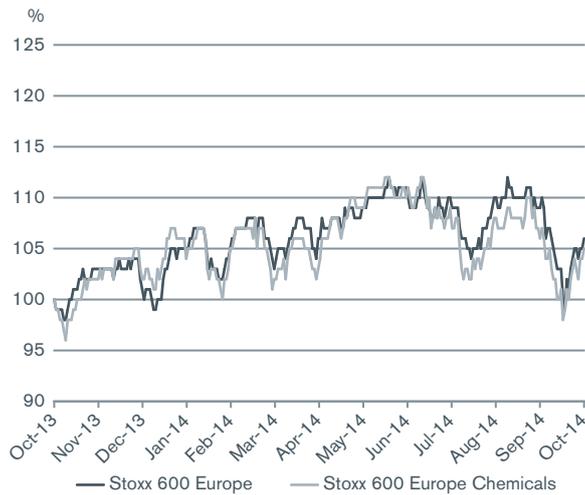
### Currency Trends



Source: Capital IQ as of October 24, 2014

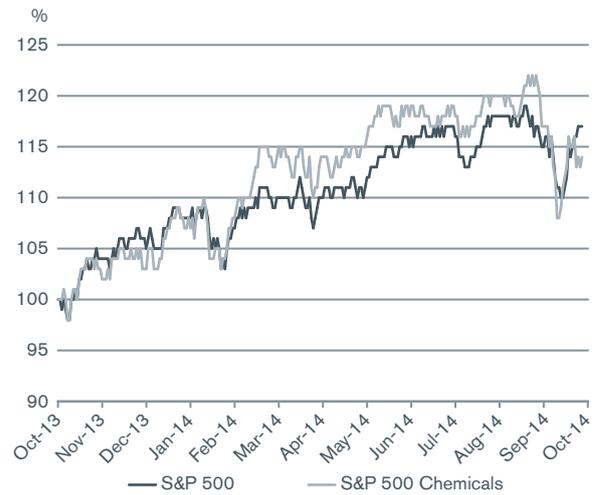
## Stock Indices: LTM Development in Europe and USA (Rebalanced)

### Europe: STOXX 600



Source: Bloomberg as of October 31, 2014

### USA: S&P 500



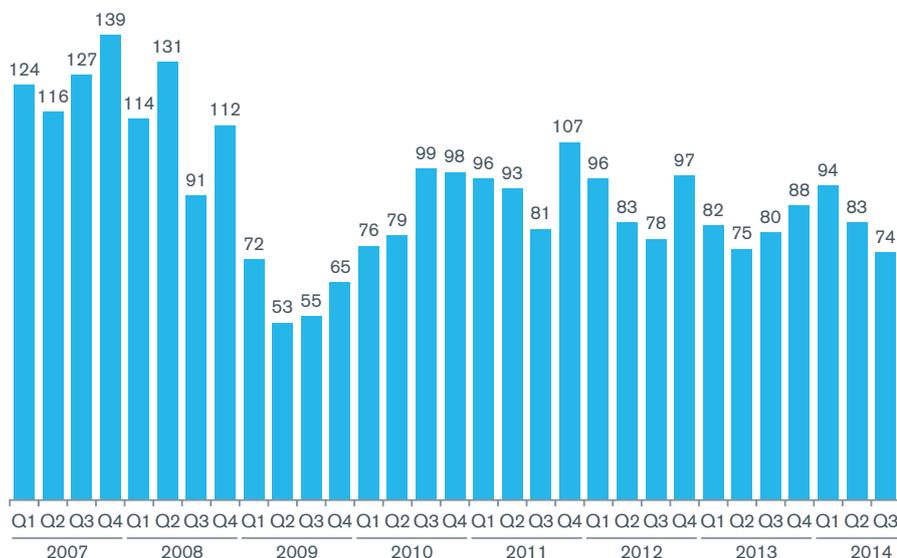
Source: Bloomberg as of October 31, 2014

# M&A Transaction Review

## Announced Deals

### European M&A Quarterly Trend

Number of Announced Transactions



Source: Capital IQ

#### Key Observations

- Transaction values in Q3 2014 are available for 23 transactions (out of 74) summing up to a total value of 19.2bn EUR
- Top 10 transactions have a combined value of 18.8bn EUR, Top 10 transactions are listed below
- The acquisition of Sigma-Aldrich by Merck KGaA to expand its life science business for a total consideration of 13.5bn EUR was the largest transaction by value in Q3 2014
- Screening includes transactions with target, buyer or seller from Europe
- Announced transactions include bids made, letters of intent, definitive agreements, and registered offerings (definition as by Capital IQ)

### Top 10 European Deals Announced in Q3 2014

EUR in millions

Announced	Acquirer	HQ	Target	HQ	Target Business Description	Stake Acquired	Transaction Value	Revenues (in EURm)	LTM EBITDA margin	EV / Revenue	EV / EBITDA
22-Sep-14	Merck KGaA	DE	Sigma-Aldrich Corporation	US	Sigma-Aldrich Corporation, a life science and high technology company, develops, manufactures, purchases, and distributes various chemicals, biochemicals, and equipment worldwide.	100.0%	13,531.4	2,133.9	30.5%	6.0x	19.8x
19-Sep-14	Arkema S.A.	FR	Bostik, Inc.	US	Bostik, Inc. designs, manufactures, and markets adhesives and sealants for industrial, construction, and consumer markets in the United States.	100.0%	1,740.0	1,530.0	10.3%	1.1x	11.0x
8-Sep-14	FMC Corp.	US	Cheminova A/S	DK	Cheminova A/S produces and sells crop protection products to farmers worldwide.	100.0%	1,410.4	886.6	n/a	1.6x	n/a
31-Jul-14	CCMP Capital Advisors, LLC	US	Solvay USA Inc.	US	Solvay USA Inc., a specialty chemical company, offers research and development, and production of chemicals and plastics.	100.0%	660.0	288.0	n/a	2.3x	n/a
6-Aug-14	MacDermid Agricultural Solutions Holdings BV	NL	Agriphar S.A.	BE	Agriphar S.A. formulates phytosanitary products for customers worldwide.	100.0%	300.1	127.0	n/a	2.4x	n/a
18-Aug-14	LBO France	FR	Chryso S.A.S.	FR	Chryso S.A.S. designs and manufactures admixtures and additives for concrete, cement, and gypsum.	100.0%	290.0	239.2	14.7%	1.2x	8.3x
5-Sep-14	Hubert Francois	n/a	Groupe Salins	FR	Groupe Salins, together with its subsidiaries, engages in the production and marketing of sodium chloride.	100.0%	240.0	240.0	n/a	1.0x	n/a
5-Aug-14	Yara International ASA	NO	Galvani Indústria, Comércio e Serviços em Sociedade Anônima	BR	Galvani Indústria, Comércio e Serviços em Sociedade Anônima mines, produces, and distributes phosphatic fertilisers.	60.0%	237.8	263.3	13.6%	1.5x	11.0x
4-Aug-14	Mexichem, S.A.B. de C.V.	MX	VESTOLIT GmbH & Co. KG	DE	VESTOLIT GmbH & Co. KG operates integrated polyvinyl chloride (PVC) production plants in Europe.	100.0%	219.0	477.0	n/a	0.5x	n/a
8-Jul-14	Kemira Oyj	FI	Akzo Nobel NV, Paper Chemical Business	NL	Akzo Nobel NV, Paper Chemical Business comprises paper chemical manufacturing business.	100.0%	153.0	243.0	9.5%	0.6x	6.7x

Includes announcements until September 30, 2014

Dates in red are closed transactions as of October 31, 2014

Source: Capital IQ

## M&A Transaction Review

### Strategic Alliances & Collaboration

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#### R&D

##### **AkzoNobel and Photanol to jointly develop green chemicals**

*September 2014*

AkzoNobel and the cleantech company Photanol have teamed up to work on creating sustainable technology which mimics the way plants use photosynthesis. The collaboration is focused on Photanol's existing proprietary technology, which uses light to directly convert CO<sub>2</sub> from the air into predetermined raw materials such as acetic acid and butanol.

Source: AkzoNobel

##### **BASF and Smart Planet Technologies target strategic partnership**

*September 2014*

BASF and the California-based packaging technology company Smart Planet Technologies are discussing a possible strategic partnership concerning the mineralized coating technology for paper packaging applications. According to BASF, the search for more sustainable coating solutions has become a priority for many companies involved in the paper packaging industry.

Source: BASF

##### **Cytec and Dralon announce industrial grade carbon fiber collaboration**

*July 2014*

Cytec and Dralon have entered strategic discussions to support the exploration and development of large tow industrial grade carbon fiber. Demand for large tow carbon fiber is driven by increasing use in industrial markets such as automotive (e.g. lighter-weight vehicles).

Source: Cytec

#### Operations

##### **Bayer CropScience acquires European distribution rights for biofungicide from Belchim**

*October 2014*

Bayer CropScience announced that it has acquired the sole European distribution rights for the biological fungicide Contans™ WG from Belchim Crop Protection. This acquisition allows Bayer CropScience to offer European farmers another established biological solution to combat fungal diseases in arable and vegetable crops.

Source: Bayer

##### **INEOS and Doeflex combine PVC compounding operations**

*September 2014*

INEOS and Doeflex form a business combination of their respective PVC compounding businesses. After completion, the business combination will be a leading European PVC compounds producer with a turnover in excess of 200m EUR and manufacturing sites in the UK, Sweden and Switzerland. The combined business will run under the name INEOS Compounds.

Source: INEOS

##### **Albermarle and ICL to form polymeric flame retardant manufacturing joint venture**

*August 2014*

ICL and Albermarle announced that the two companies have entered into an agreement to establish a manufacturing joint venture for the production of ICL's FR-122P polymeric flame retardant and Albermarle's GreenCrest™ polymeric flame retardant. The joint venture and its partners will own and operate plants in the Netherlands and Israel, located at ICL sites.

Source: ICL

##### **Evonik and AkzoNobel look into production joint venture for membrane electrolysis in Germany**

*July 2014*

Evonik and AkzoNobel have entered into negotiations to build a membrane electrolysis facility at AkzoNobel's site in Ibbenbüren (Germany). The objective is to establish a joint venture for the new construction and shared operation of an electrolysis facility for potassium hydroxide solution and chlorine. The negotiations are expected to be finalized by the end of 2014.

Source: Evonik

##### **Arkema and Omya enter plastic additives distribution agreement in Europe**

*July 2014*

The French diversified chemicals producer Omya and Arkema build a strategic collaboration in Europe for a selected range of plastic additives. Under this distribution agreement, Omya will market Arkema's impact modifier and processing aid solutions across Europe, except Spain and Portugal.

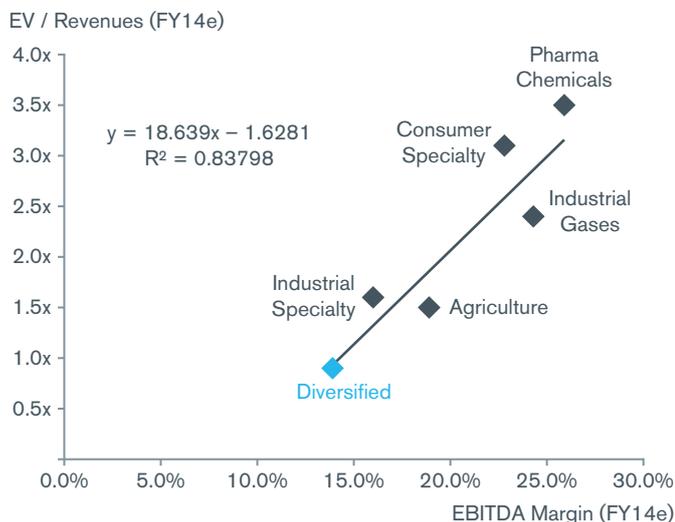
Source: Arkema

# Public Trading Analysis

## Sub-Sector Summary

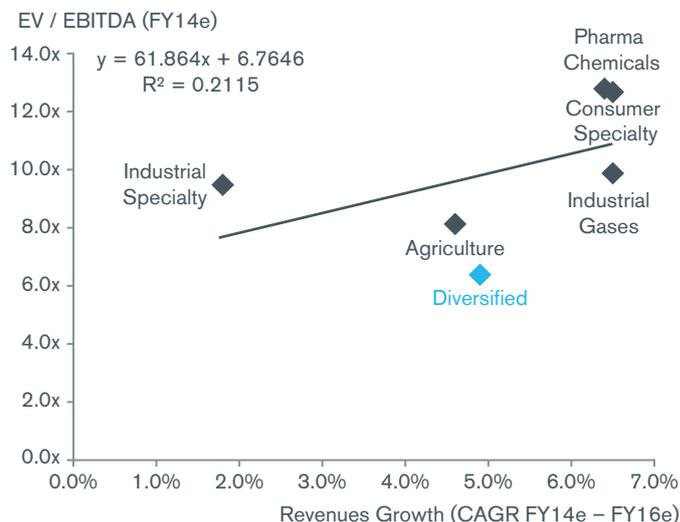
### Regression Analysis

EV / Revenues vs. EBITDA Margin



See page 12 for constitution of Sub-Sectors  
 Data point in blue is this edition's highlighted Sub-Sector (see page 11)  
 Source: Capital IQ as of October 24, 2014

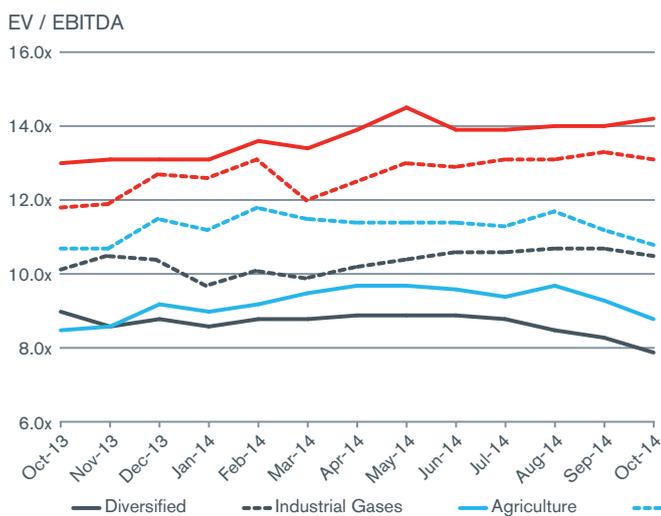
EV / EBITDA vs. Revenues Growth



See page 12 for constitution of Sub-Sectors  
 Data point in blue is this edition's highlighted Sub-Sector (see page 11)  
 Source: Capital IQ as of October 24, 2014

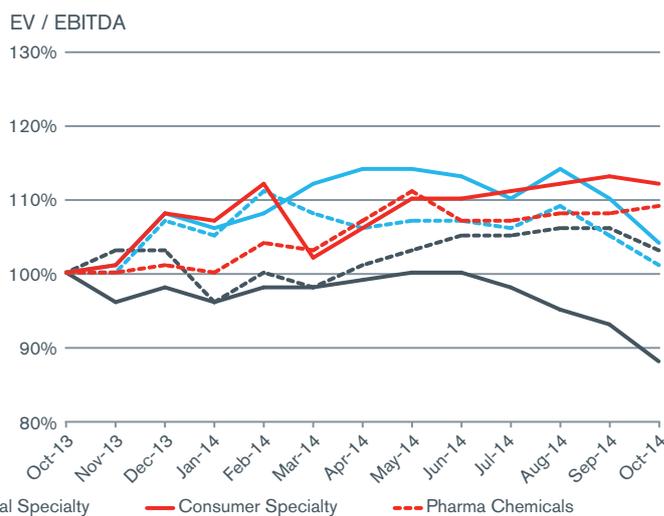
### Sub-Sector Trading Multiples (EV / EBITDA)

LTM Actual



Source: Capital IQ as of October 24, 2014

LTM Rebased



Source: Capital IQ as of October 24, 2014

**Definitions:**

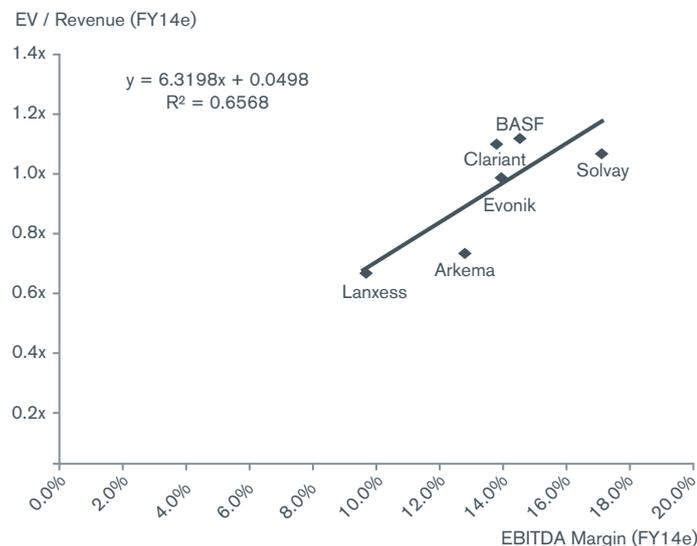
- Enterprise Value
- Market Capitalization + Total Debt + Preferred Equity + Minority Interest - Cash and Short Term
- EBITDA
- Earning Before Interest, Taxes, Depreciation and Amortization
- LTM
- Last Twelve Months

# Public Trading Analysis

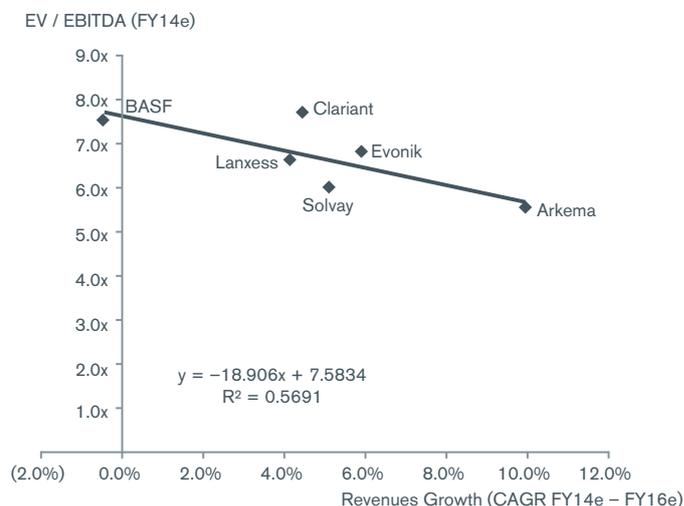
## Sub-Sector Focus: Diversified

### Regression Analysis\*

EV / Revenue vs. EBITDA Margin

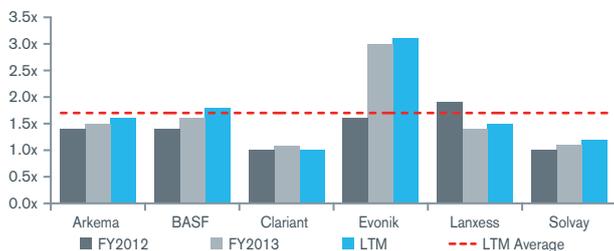


EV / EBITDA vs. Revenues Growth

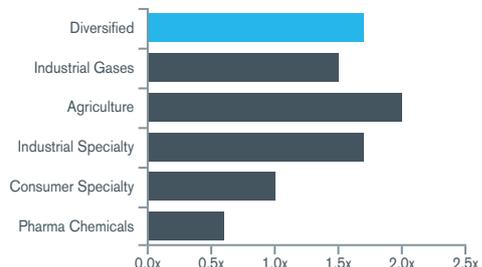


### Capex / Depreciation\*

Diversified Chemicals

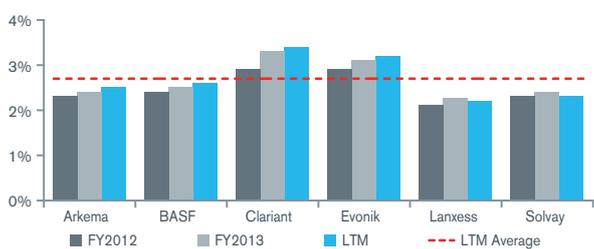


Chemicals Sub-Sector Average (LTM)

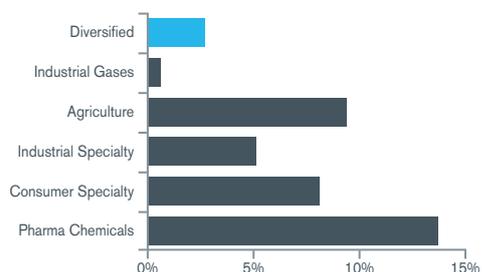


### R&D Expenditures in % of Sales\*

Diversified Chemicals

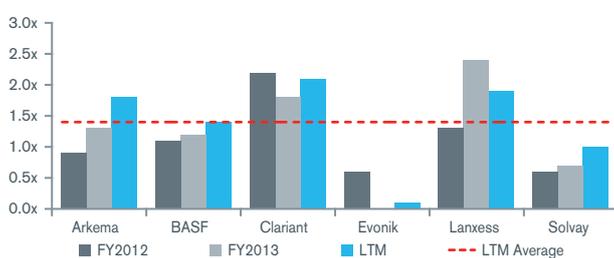


Chemicals Sub-Sector Average (LTM)

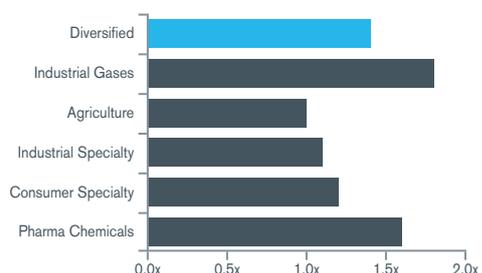


### Net Debt / EBITDA\*

Diversified Chemicals



Chemicals Sub-Sector Average (LTM)



\*Source: Capital IQ, Bloomberg as of October 24, 2014

## Public Trading Analysis

### Company Trading Statistics

EUR in millions (except for per share data)													
Company Name	Price in EUR	52 Week in EUR			Market Cap	Enterprise Value	Revenues		EBITDA		EBITDA Margin	EV/EBITDA	
	31-Oct-14	Low	High	% of High			LTM	LTM	FY2014	LTM	LTM	FY2014	
<b>Diversified</b>													
Arkema S.A.	49.1	45.2	85.1	58%	3,089.2	4,229.2	5,949.0	610.0	777.3	10.3%	6.9x	5.4x	
BASF SE	70.2	64.1	88.3	79%	63,173.0	77,818.0	74,428.0	10,038.0	10,435.4	13.5%	7.8x	7.5x	
Clariant AG	13.9	12.1	15.6	89%	4,388.7	5,777.3	5,048.5	641.3	721.1	12.7%	9.0x	8.0x	
Evonik Industries AG	26.7	24.3	30.9	86%	12,419.8	12,047.8	12,946.0	1,208.0	1,858.4	9.3%	10.0x	6.5x	
Lanxess AG	41.5	38.9	56.8	73%	3,799.1	5,317.1	8,126.0	800.0	782.5	9.8%	6.6x	6.8x	
Solvay SA	108.6	100.2	129.2	84%	9,057.4	11,008.4	10,435.0	1,629.0	1,817.7	15.6%	6.8x	6.1x	
<b>Average</b>										<b>11.9%</b>	<b>7.9x</b>	<b>6.7x</b>	
<b>Industrial Gases</b>													
L'Air Liquide SA	49.1	45.2	85.1	58%	3,089.2	4,229.2	5,949.0	610.0	777.3	10.3%	6.9x	5.4x	
Linde Aktiengesellschaft	146.9	138.0	158.1	93%	28,084.4	37,665.4	16,771.0	3,672.0	3,929.1	21.9%	10.3x	9.6x	
<b>Average</b>										<b>23.0%</b>	<b>10.5x</b>	<b>9.8x</b>	
<b>Agriculture</b>													
Israel Chemicals Ltd.	5.4	5.3	6.7	80%	6,822.5	8,762.1	4,389.5	878.2	1,014.3	20.0%	10.0x	8.6x	
K+S Aktiengesellschaft	22.2	18.7	27.2	82%	4,223.8	4,403.8	3,770.3	839.7	835.3	22.3%	5.2x	5.3x	
KWS SAAT AG	261.5	242.5	283.7	92%	1,712.2	1,716.5	1,178.0	185.5	178.2	15.7%	9.3x	9.6x	
Syngenta AG	247.0	226.6	308.4	80%	22,289.9	25,002.7	10,815.0	2,023.3	2,328.9	18.7%	12.4x	10.7x	
Yara International ASA	36.4	28.0	40.8	89%	10,060.8	10,932.8	11,053.6	1,528.7	1,770.2	13.8%	7.2x	6.2x	
<b>Average</b>										<b>18.1%</b>	<b>8.8x</b>	<b>8.1x</b>	
<b>Industrial Specialty</b>													
Akzo Nobel NV	53.0	46.6	61.1	87%	12,819.7	15,103.7	14,261.0	1,539.0	1,698.4	10.8%	9.8x	8.9x	
Alent plc	4.2	3.7	5.0	85%	1,127.1	1,257.0	814.3	127.2	131.0	15.6%	9.9x	9.6x	
EMS-Chemie Holding AG	288.2	246.4	345.7	83%	6,697.4	6,275.2	1,634.5	374.6	387.7	22.9%	16.8x	16.2x	
Johnson Matthey plc	37.7	34.2	43.8	86%	7,653.8	8,584.6	13,494.3	695.1	729.1	5.2%	12.4x	11.8x	
Kemira Oyj	10.3	10.0	12.3	84%	1,566.1	2,035.6	2,135.9	162.9	250.5	7.6%	12.5x	8.1x	
Lenzing Aktiengesellschaft	46.5	39.7	55.2	84%	1,138.6	1,695.6	1,864.8	175.6	188.2	9.4%	9.7x	9.0x	
Sika AG	2,852.6	2,339.1	3,150.3	91%	7,271.6	7,631.8	4,564.5	618.3	623.2	13.5%	12.3x	12.2x	
Synthomer plc	2.6	2.2	3.8	67%	874.1	1,039.3	1,182.3	136.1	148.1	11.5%	7.6x	7.0x	
Tessenderlo Chemie NV	20.7	16.6	23.9	87%	656.5	858.9	1,536.8	119.6	130.0	7.8%	7.2x	6.6x	
Umicore S.A.	31.2	29.7	38.3	82%	3,339.2	3,585.9	8,784.7	420.1	427.6	4.8%	8.5x	8.4x	
Victrex plc	21.4	19.5	25.9	83%	1,820.1	1,719.3	284.9	128.5	143.3	45.1%	13.4x	12.0x	
Wacker Chemie AG	96.1	64.4	104.4	92%	4,772.1	5,770.0	4,718.8	890.1	951.4	18.9%	6.5x	6.1x	
<b>Average</b>										<b>14.4%</b>	<b>10.5x</b>	<b>9.7x</b>	
<b>Consumer Specialty</b>													
Chr. Hansen Holding A/S	32.2	26.6	33.0	98%	4,208.9	4,612.8	756.2	246.4	254.8	32.6%	18.7x	18.1x	
Croda International plc	29.0	25.0	33.6	86%	3,909.7	4,173.5	1,314.0	357.6	364.7	27.2%	11.7x	11.4x	
Frutarom Industries Ltd.	19.8	12.7	21.5	92%	1,156.1	1,294.3	554.7	97.5	117.6	17.6%	13.3x	11.0x	
Koninklijke DSM N.V.	50.0	43.6	60.2	83%	8,495.0	11,002.0	9,065.0	1,108.0	1,195.9	12.2%	9.9x	9.2x	
Givaudan SA	1,328.0	970.5	1,316.4	101%	12,072.4	12,956.6	3,569.7	731.2	863.5	20.5%	17.7x	15.0x	
Symrise AG	44.9	29.9	44.4	101%	5,833.8	5,872.9	1,837.5	382.1	424.6	20.8%	15.4x	13.8x	
<b>Average</b>										<b>21.8%</b>	<b>14.4x</b>	<b>13.1x</b>	
<b>Pharma Chemicals</b>													
Bayer AG	113.4	89.7	114.1	99%	90,975.8	96,281.8	41,088.0	8,571.0	8,832.4	20.9%	11.2x	10.9x	
Lonza Group Ltd	88.0	65.5	98.4	89%	4,992.4	6,804.8	2,997.4	604.4	617.5	20.2%	11.3x	11.0x	
Novozymes A/S	36.9	27.5	38.1	97%	11,409.7	11,240.2	1,641.4	544.6	556.0	33.2%	20.6x	20.2x	
Merck KGaA	72.0	56.1	76.1	95%	31,119.7	33,394.3	11,021.4	3,351.6	3,341.1	30.4%	10.0x	10.0x	
<b>Average</b>										<b>26.2%</b>	<b>13.3x</b>	<b>13.0x</b>	

Source: Capital IQ as of October 31, 2014

## Upcoming Events

### Q1 2015

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#### Next Event



#### **Informex 2015**

2/3/2015 | New Orleans, USA

<http://www.informex.com/>

Informex offers exhibitors & attendees a direct view of what is happening globally across the fine, specialty & chemical manufacturing marketplace. The event brings together an international mix of motivated buyers, manufacturers, distributors and sellers of high value chemistry for 3 days of sourcing, education & networking.

The 2015 conference will provide innovation-focused education sessions that lend expert guidance to ongoing industry changes. Sessions will spotlight innovation and opportunities in rapidly growing fields such as green chemistry, shale gas, personalized medicine, 3D printing and more. Some sessions also will provide attendees with insights into trade and regulation, intellectual property and the latest business trends in industries such as the fine and specialty chemicals and pharmaceuticals.

#### Events Ticker

##### **Informex 2015**

2/3/2015 | New Orleans, USA

<http://www.informex.com/>

##### **Enzymes for Industrial Applications**

2/4/2015 | Frankfurt/Main, Germany

<http://events.dechema.de>

##### **6th International Gas Technology Conference**

2/19/2015 | Madinat Jumeirah, Dubai

[http://www.europetro.com/en/igtc\\_2015](http://www.europetro.com/en/igtc_2015)

##### **FILTECH 2015**

2/24/2015 | Cologne, Germany

<http://filtech.de/>

##### **DCAT Week 2015**

3/16/2014 | New York, USA

[http://www.dcat.org/pages/week\\_DCATWeek.aspx](http://www.dcat.org/pages/week_DCATWeek.aspx)

##### **IHS World Petrochemical Conference**

3/25/2015 | Houston, USA

<http://www.ihs.com/info/events/wpc/index.aspx>

## Europe Contacts

### Andreas Stoecklin

Managing Director, M&A  
+49 (0)89 388 884 120  
andreas.stoecklin@duffandphelps.com

### Dafydd Evans

Managing Director, M&A  
+44 (0)20 7089 4850  
dafydd.evans@duffandphelps.com

### Yann Magnan

Managing Director, VAS  
+33 (0)14 006 4023  
yann.magnan@duffandphelps.com

### Jochem Quaak

Managing Director, VAS  
+31 (0)20 851 5151  
jochem.quaak@duffandphelps.com

### Paul Teuten

Managing Director, M&A  
+44 (0)20 7089 4840  
paul.teuten@duffandphelps.com

### Michael Freischlager

Senior Associate, M&A  
+49 (0)89 388 884 190  
michael.freischlager@duffandphelps.com

## U.S. Contacts

### David Althoff

Managing Director, M&A  
+1 312 697 4625  
david.althoff@duffandphelps.com

### Joshua Benn

Managing Director, M&A  
+1 212 450 2840  
joshua.benn@duffandphelps.com

### Steve Burt

Managing Director, M&A  
+1 312 697 4620  
steve.burt@duffandphelps.com

### Jon Melzer

Managing Director, M&A  
+1 212 450 2866  
jon.melzer@duffandphelps.com

## Asia Contacts

### Sammy Lai

Managing Director, VAS  
+86 10 5835 7008  
sammy.lai@duffandphelps.com

### David Lu

Managing Director, M&A  
+86 21 6032 0608  
david.lu@duffandphelps.com

### Margaret Mi

Director, M&A  
+1 212 871 0433  
margaret.mi@duffandphelps.com

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