

# European Chemicals

## Focus of the week: Sector EPS momentum – why worry? Pricing is only just recovering

### Equities

Europe including UK  
Chemicals

#### Sector EPS beats by 6% for 3Q16... and pricing has only just started to improve

3Q16 EPS beat on average by 6% (EBITDA by 3%) despite organic sales being flat YoY. In our recent meetings with investors, concerns about the sustainability of margin performance, in an environment with possible raw material inflation and specific end-market risks (autos, aerospace, electronics), dominate conversations. And yet whilst we share these concerns with regard to certain business models we are encouraged by developments for the one major drag on 3Q (and the last few years): commodity pricing. In 3Q16 pricing was -4% for the Diversifieds sub-sector and -7% for the Agricultural sub-sector. However with increased evidence of YoY price improvements in Diversifieds we are encouraged by the runway ahead of us. Our UBS price tracker for commodity chemicals in Asia is +5% YoY in November (+3% for 4Q16 to date), albeit helped by some temporary capacity disruptions. Fertiliser prices are also recovering – see details below. **We remain positive towards the Diversifieds sub-sector, with buy ratings on Arkema, BASF, Covestro and Lanxess.** For 4Q pricing we estimate Diversifieds at 0% and for 2017E +1% and on current evidence we see scope for positive surprise (and we are already above consensus for 2017E EPS).

#### Some positive signs in fertiliser markets

Urea prices continue to build on recent strength with strong price levels across all regions last week (see [Fertiliser Weekly](#)) and 2) capacity cuts from PotashCorp of c1% of global capacity are encouraging, albeit still small in a global context. We remain cautious on the European (if not the Global) Ag sector with our only active rating K+S (Sell) given unresolved production issues in Germany, execution risk on the Legacy project in Canada and a weak balance sheet. We are Neutral-rated on Yara.

#### Yen weakness makes for a tough environment for Evonik & Wacker

The Japanese Yen has fallen -8.4% vs the USD and -3.8% vs the EUR in the past 6 months to November 2016 since a peak in June. Whilst only 12% of global methionine production is from Japan, around 30% of volumes are generated by yen-denominated players (Sumitomo and Novus). Evonik (Neutral, see [post Q3 results](#)) is likely to see a tough competitive environment if the yen remains weak, especially considering that 100k tonnes of capacity due from Sumitomo in 2018 (90% of which is likely to be exported, see [Sumitomo site visit](#) from Monday). Wacker (Buy-rated) also has exposure to yen-based competition (Sumco and Shin-etsu) in the Siltronic business (it has a 58% stake), albeit this business is now a small component of the investment case.

**Andrew Stott**

Analyst

[andrew.stott@ubs.com](mailto:andrew.stott@ubs.com)

+44-20-7567 9227

**Geoff Haire**

Analyst

[geoff.haire@ubs.com](mailto:geoff.haire@ubs.com)

+44-20-7568 8327

**Patrick Rafaisz, CFA, FRM**

Analyst

[patrick.rafaiz@ubs.com](mailto:patrick.rafaiz@ubs.com)

+41-44-239 1356

# Focus of the week: Feedback

## Q3 results and looking forward...

3Q16 results missed revenue consensus expectations by 1% on average, but EBITDA beat consensus by 6% on average (although this is a smaller sample with 15 companies reporting earnings and 23 reporting revenue). Within the detail the agriculture subsector missed revenue by the most coming in 3% below consensus, but the two companies reporting earnings both came in well above on EBITDA (K+S +47% beat & Yara +16% beat).

**Figure 1: 3Q16 results missed revenue consensus expectations by 1% on average, but EBITDA beat consensus by 6% on average**

Reporting Date (in LC)		Revenue Q3				EBITDA Q3				EBIT Q3				EPS Reported Q3				EPS Adjusted Q3			
		UBSe	Cons	Actual	vs Cons	UBSe	Cons	Actual	vs Cons	UBSe	Cons	Actual	vs Cons	UBSe	Cons	Actual	vs Cons	UBSe	Cons	Actual	vs Cons
Agriculture																					
ICL	23-Nov-16	1,397	1,512	1,383	-9%					171	172	164	-5%								
K+S	10-Nov-16	714	716	688	-4%	39	38	56	47%	-36	-32	-31	-2%	-0.20		-0.15		-0.20	-0.17	-0.14	-16%
Syngenta	25-Oct-16	2,626	2,585	2,524	-2%																
Yara	21-Oct-16	26,261	23,315	23,924	3%	3,121	2,803	2,968	6%	1,418	1,276	1,440	13%	3.88	2.77	3.00	8%	3.88	2.99	3.46	16%
Mean					-3%				26%				2%			8%					0%
Speciality																					
Akzo Nobel	19-Oct-16	3,690	3,639	3,600	-1%	574	588	594	1%	416	435	454	4%	1.06	1.12	1.13	1%	1.20	1.21	1.20	-1%
EMS Chemie	7-Oct-16	518	512	496	-3%																
JMAT(H1)*	17-Nov-16	1,666	1,661	1,676	1%					223	227	236	4%					89.47	90.85	96.40	6%
Sika	27-Oct-16	1,576	1,552	1,526	-2%	287	272	280	3%	247	229	238	4%	69.19	64.91	66.71	3%				
Mean					-1%				2%				4%			2%					3%
Diversified																					
Arkema	10-Nov-16	1,891	1,892	1,838	-3%	306	295	303	3%	207		171		1.65	1.20	1.26	5%	1.55	1.41	1.45	3%
BASF	27-Oct-16	14,149	13,941	14,013	1%	2,271	2,292	2,437	6%	1,217	1,283	1,464	14%	0.83	0.84	0.97	15%	0.96	0.97	1.10	13%
Clariant	27-Oct-16	1,434	1,438	1,400	-3%	209	213	208	-2%												
Covestro	25-Oct-16	2,999	3,028	3,022	0%	492	513	574	12%	314	337	406	20%	1.06	1.01	1.28	27%	1.06	1.02	1.28	25%
DSM	3-Nov-16	2,023	1,985	1,998	1%	325	310	323	4%	203	191	205	8%					0.86	0.77	0.81	5%
Evonik	4-Nov-16	3,218	3,172	3,164	0%	540	550	578	5%	339	357	381	7%	0.37	0.44	0.48	9%	0.46	0.49	0.53	8%
Lanxess	10-Nov-16	1,968	1,898	1,921	1%	240	247	257	4%	122	131	138	6%	0.46	0.59	0.68	15%				
Solvay	8-Nov-16	3,169	3,085	2,921	-5%	679	664	664	0%	388	364	360	-1%	1.91	1.80	1.71	-5%	2.11	2.27	2.40	6%
Wacker Chemie	27-Oct-16	1,374	1,405	1,346	-4%	293	298	301	1%	105	115	115	0%	0.96	1.18	1.29	10%	0.96	1.18	1.29	10%
Mean					-1%				4%				8%			11%					10%
Consumer																					
Croda	3-Nov-16	315	303	315	4%																
Frutarom	22-Nov-16	304	298	300	1%					51	43	49	13%					0.62	0.59		-5%
Givaudan	10-Oct-16	1,167	1,174	1,184	1%																
Symrise	2-Nov-16	738	725	730	1%	158	158	157	0%	108	109	105	-4%	0.50	0.52	0.50	-5%				
Mean					2%				0%				4%			-5%					-5%
Industrial Gases																					
Air Liquide	25-Oct-16	5,246	5,057	5,077	0%																
Linde	28-Oct-16	4,465	4,268	4,407	3%	988	978	1,010	3%	509	514	527	3%	1.54	1.62	1.69	4%				
Mean					2%				3%				3%			4%					
Sector average					-1%				6%				5%			7%					6%

Source: UBS, Company data, Reuters, Bloomberg, Vara consensus

Organic growth in the sector remained weak at -1% with the agriculture stocks performing the worst at -8% and consumer delivering the best result at +3%. We forecast FY16 organic growth for the Chemicals sector of -1% with 4Q at 0% and a recovery in FY17 to 3%.

**Figure 2: Organic growth remained weak for the sector in 3Q16 with -1% on average**

	FY11	FY12	FY13	FY14	FY15	Q116	Q216	Q316	Q416E	FY16E	FY17E	FY18E
<b>Specialty</b>												
Akzo Nobel	7%	1%	0%	1%	-1%	0%	-1%	-2%	-2%	-1%	1%	2%
Elementis	6%	2%	-1%	2%	-9%		-9%		-4%	-2%	3%	3%
Ems-Chemie	16%	5%	5%	5%	4%	5%	1%	3%	2%	2%	4%	5%
Johnson Matthey	20%	17%	-2%	14%	8%		4%		4%	4%	-1%	2%
Lonza	6%	0%	-4%	1%	6%					4%	4%	4%
Sika	12%	2%	6%	7%	4%	5%	7%	4%	4%	5%	4%	5%
Victrex Plc	14%	2%	0%	15%	7%		-10%		-15%	-4%	1%	10%
<b>Average</b>	<b>12%</b>	<b>4%</b>	<b>1%</b>	<b>7%</b>	<b>3%</b>	<b>3%</b>	<b>-1%</b>	<b>2%</b>	<b>-2%</b>	<b>1%</b>	<b>2%</b>	<b>4%</b>
<b>Diversified</b>												
Arkema	14%	-5%	-1%	-1%	-5%	-3%	-3%	-3%	13%	1%	3%	3%
BASF	12%	4%	5%	1%	-6%	-6%	-5%	-1%	2%	-4%	5%	6%
Clariant	2%	0%	4%	5%	3%	3%	3%	2%	-1%	1%	2%	3%
Covestro	8%	3%	0%	5%	-5%	-5%	-4%	1%	-7%	-3%	5%	5%
DSM	11%	-3%	2%	3%	2%	2%	3%	3%	4%	4%	5%	4%
Evonik	12%	-1%	-1%	2%	1%	-7%	-6%	-7%	-6%	-5%	4%	4%
Lanxess	20%	-3%	-7%	-3%	-9%	-6%	-6%	1%	0%	-3%	2%	5%
Solvay	10%	-1%	-4%	4%	-3%	-2%	-1%	-1%	2%	0%	4%	3%
Wacker Chemie	5%	0%	-1%	8%	3%	-2%	2%	-1%	11%	2%	2%	4%
<b>Average</b>	<b>10%</b>	<b>-1%</b>	<b>0%</b>	<b>3%</b>	<b>-2%</b>	<b>-3%</b>	<b>-2%</b>	<b>-1%</b>	<b>2%</b>	<b>-1%</b>	<b>4%</b>	<b>4%</b>
<b>Consumer</b>												
Croda	7%	4%	2%	2%	4%	-1%	-3%	-3%	-3%	-3%	2%	3%
Givaudan	6%	6%	6%	4%	3%	6%	6%	3%	2%	4%	4%	4%
Symrise	2%	6%	8%	5%	6%	6%	9%	9%	8%	8%	7%	7%
<b>Average</b>	<b>5%</b>	<b>6%</b>	<b>5%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>3%</b>	<b>2%</b>	<b>3%</b>	<b>4%</b>	<b>5%</b>
<b>Industrial Gases</b>												
Air Liquide Gas	8%	3%	3%	4.1%	3.8%	4.2%	3.1%	2.0%	2.1%	2.8%	2.8%	3.4%
Linde Gas	7%	3%	2%	2.7%	2.1%	2.9%	2.6%	0.6%	2.4%	0.8%	2.2%	3.2%
<b>Average</b>	<b>7%</b>	<b>3%</b>	<b>3%</b>	<b>3.4%</b>	<b>3.0%</b>	<b>3.6%</b>	<b>2.8%</b>	<b>1.3%</b>	<b>2.3%</b>	<b>1.8%</b>	<b>2.5%</b>	<b>3.3%</b>
<b>Agriculture</b>												
K+S	13%	-6%	3%	-3%	2%	-18%	-19%	-20%	-17%	-20%	2%	12%
Syngenta	12%	10%	8%	6%	0%	-1%	-5%	1%	6%	-1%	7%	6%
Yara	23%	5%	1%	12%	17%	-10%	-9%	-6%	-1%	-6%	3%	2%
<b>Average</b>	<b>16%</b>	<b>3%</b>	<b>4%</b>	<b>5%</b>	<b>7%</b>	<b>-9%</b>	<b>-11%</b>	<b>-8%</b>	<b>-4%</b>	<b>-9%</b>	<b>4%</b>	<b>7%</b>
<b>Sector average</b>	<b>10%</b>	<b>2%</b>	<b>1%</b>	<b>4%</b>	<b>2%</b>	<b>-1%</b>	<b>-2%</b>	<b>-1%</b>	<b>0%</b>	<b>-1%</b>	<b>3%</b>	<b>5%</b>

Source: Company data, UBS estimates

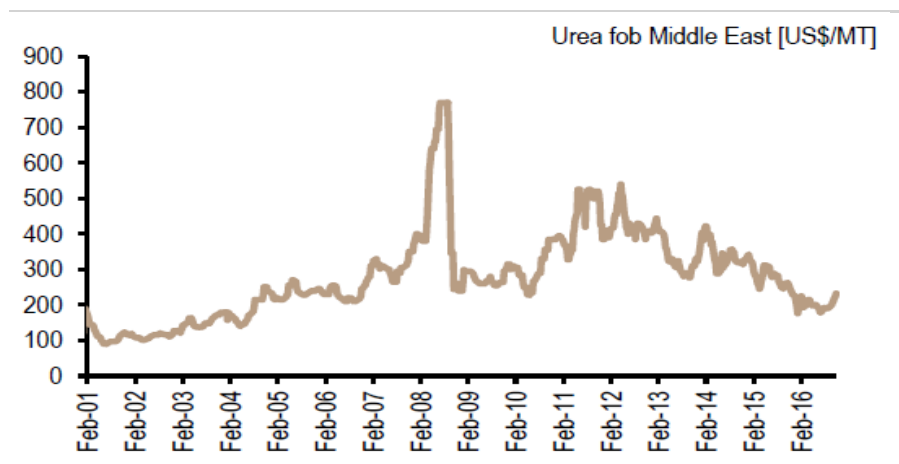
## Is the fertiliser market about to turn?

We have seen a few notable positive data points in the past week in the fertiliser market with urea prices continuing to climb and ongoing signs of capacity discipline in potash.

### (1) Urea continues climbing

The urea market was up 4-9% last week (see [Fertiliser Weekly](#)), with strong price levels across several regions. Demand is expected to remain firm, underpinning the short-term outlook for urea. Meanwhile, DAP prices remained flat at US\$321/t with the market under pressure from a lack of new demand. This is in context of large amounts of supply in the market. Nonetheless, Fertecon expects the phosphate market to be approaching a "floor" over the short-term. Finally, the ammonia market has firmed, with Yuzhnyy fob up 7% for the week, driven by limited short-term availability and some production outages. The near-term outlook for ammonia is looking positive as supply has become an issue across the market.

**Figure 3: Urea fob Middle East prices have been strong recently (US\$/t)**



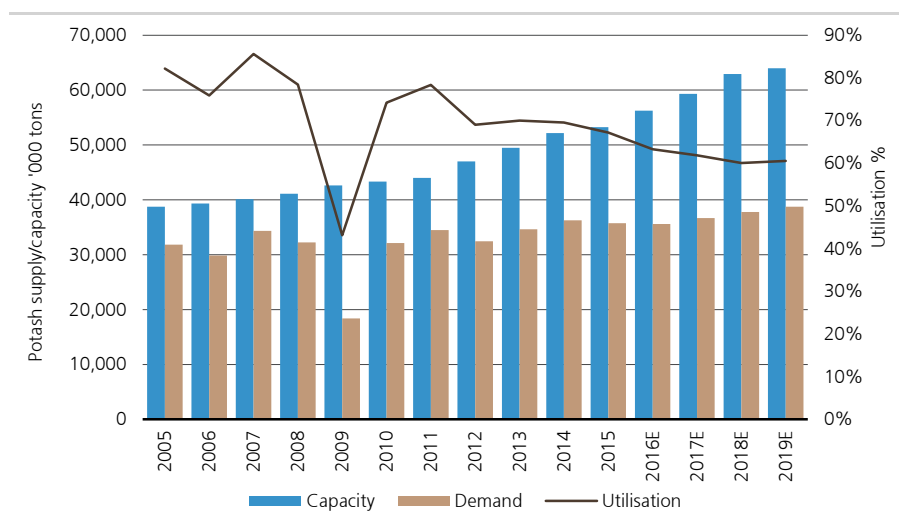
Source: UBS estimates, Datastream, Fertecon

## (2) Potash capacity cuts from Potash Corp

Potash Corp announced on Wednesday plans to reduce output at Cory, Lanigan and Allan in 2017 (see press release [here](#)). At Cory the plans entail reducing capacity by 600k tonnes from 1.4m tonnes of red and white potash to 800k tonnes of white potash only. The adjustments at Lanigan and Allan are smaller output changes with Lanigan cutting production for 6 weeks from January 2017 and Allan cutting production for 12 weeks from February 2017.

While we believe this is a move in the right direction towards a more disciplined supply side structure, it is not big news with the 600k tonnes reduction at Cory representing c.1% of global supply in 2016. Our US colleagues model PotashCorp at 9.1m tonnes of volume production in 2017, with capacity near 18-19m tons; so already operating way below capacity.

**Figure 4: We continue to forecast a weak demand environment for potash with utilisation not bottoming out until 2018E at c60%**



Source: UBS, Company data, IHS

## (3) Positive industry read from ICL results?

Israel Chemicals reported Q3 results on Wednesday 23<sup>rd</sup> (see [First Read](#)) and, although a 5% miss vs consensus at adj EBIT, it highlighted a positive move in the fertiliser market with more positive momentum.

Firstly, ICL booked impairments and provisions of \$495m (10% of market cap) following the termination of the Ethiopian potash project of Allana Afar and discontinuation of the "Harmonize" ERP project. Throughout the report and the analyst conference call there was a focus on capital discipline with the return on these cancelled projects simply no longer justifying the investment.

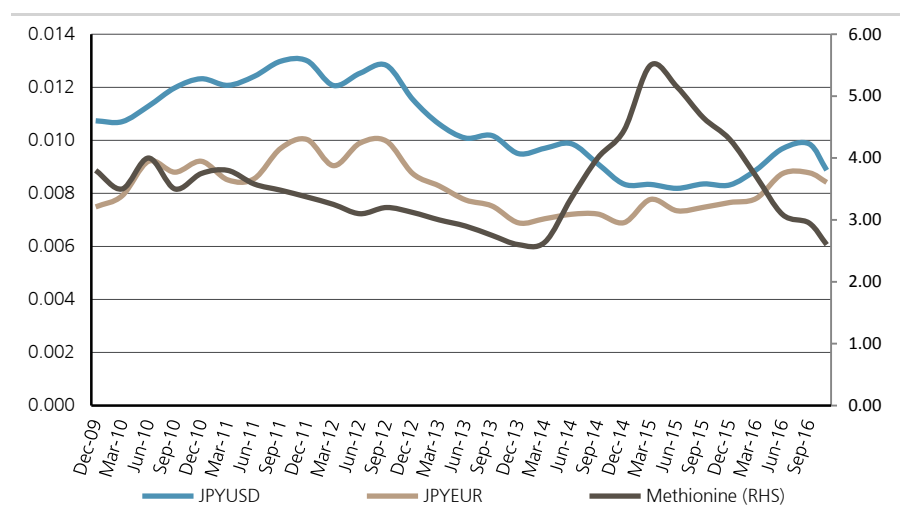
Secondly, management talked about the oversupply of potash in the market on an inventory basis now being in a much more positive place compared to last year. While the environment is undoubtedly still tough on a y/y basis for many companies, ICL becomes another company to report strong potash volume growth in 3Q16 (17% y/y) after PotashCorp (+16%) and Mosaic (+38%) although K+S continued to see weakness at -14%. This has led to areas of price improvement for MOP potash in the past few weeks in parts of Europe to the tune of \$10-20/t; in the context of an achieved average potash price of \$199/t in 3Q16. However, despite this recent improvement, potash prices were still down -29% in the quarter and adjusted Group EBIT fell -32% y/y.

## Yen weakness bad news for Evonik (good for Sumitomo)

The Japanese Yen has fallen -8.4% vs the USD and -3.8% vs the EUR in the past 6 months to November 2016 since a peak in June. This weakness coincides with another leg down for Methionine prices which have fallen 15.7% from June to November, putting prices near the trough level of December 2013.

Evonik (Neutral) produces c37% of global methionine in our 2017E forecasts while Sumitomo Chemical will produce 11% (No.4 global producer behind Adisseo and Novus). Our Japanese research colleagues recently visited two of the Sumitomo domestic plants at the start of the week (see [Sumitomo site visit](#)) and estimate that c90% of the 100k tonnes of additional capacity due to come on stream in mid-2018 is likely to be exported putting further pressure on outer year market dynamics.

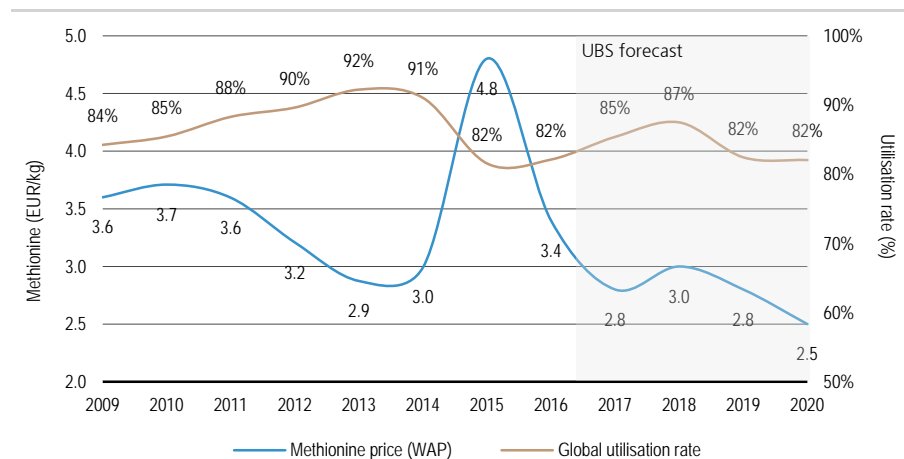
**Figure 5: Weak JPY sees another leg down for methionine pricing**



Source: feedinfo, Bloomberg

This 100k would represent c8% additional capacity on 2016 global production estimates, however, we do not expect this to be absorbed by the market with Evonik also adding capacity into 2019. We forecast utilisation rates in methionine to drop to c82% in 2019 with little support for prices, particular if the Yen continues to weaken.

**Figure 6: Limited upside in methionine prices over the next three years**



Source: FeedInfo and UBS

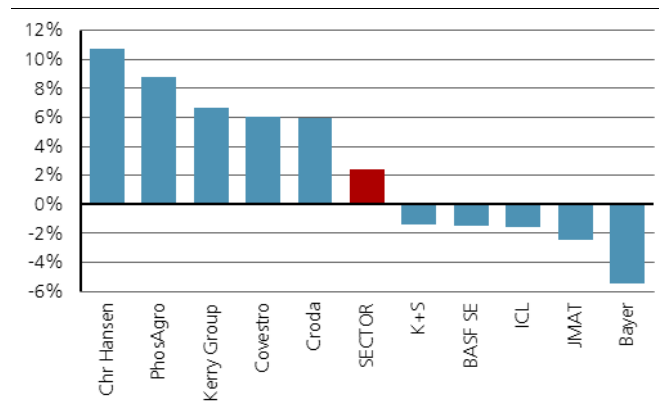
We remain Neutral on Evonik despite share price weakness (-13% since the beginning for October) with Evonik now trading in line with diversified peers. Although earnings growth forecasts lag that of peers, a FCF yield of 6.0% in 2017E should be supportive. See our update note [post Q3 results](#).

## Valuation update & Key changes

### Sector up 5.4% YTD/ up 4.6% 12M

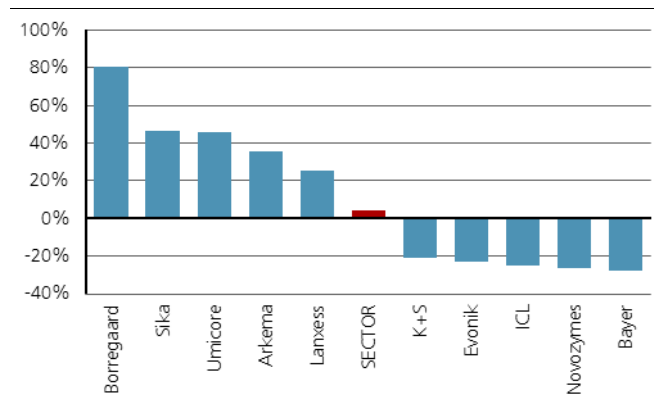
The sector is on average up 5.4% since the beginning of 2016 and up 4.6% on a 12-month basis. Top performers YTD have been Borregaard 71.1%, Umicore 42.7% and Arkema 37.0%. Worst performers have been K+S -19.8%, Bayer -23.7% and Novozymes -26.4%.

Figure 7: 10-days Top / Bottom 5 sector performers



Source: Thomson Financial

Figure 8: 12-month Top / Bottom 5 sector performers



Source: Thomson Financial

Figure 9: Estimate changes for the past week

Company	PT	% change	EBITA 16E Revision	EPS 16E Revision	EBITA 16E vs cons	EPS 16E vs cons
Arkema	EUR96	3%	EUR730 [+2.7%]	EUR5.70 [+3.3%]	3%	8%
Evonik	EUR26	-12%	EUR1268 [-12.1%]	EUR1.62 [-17.3%]	-12%	-16%
Frutarom	ILS245	9%	USD176 [-5.4%]	USD2.22 [-5.1%]	4%	3%

Source: UBS estimates

## UBS rating and target prices

Company	Local Currency	UBS Rating	Share Price (LC)	Price Target (LC)	Potential Upside / (downside) (%)	% of 52 week high	% of 52 week low
<b>Agriculture</b>							
Bayer	EUR	Neutral	88.9	100.0	12.5	70	104
ICL	ILS	Neutral	14.3	16.0	12.1	72	105
K+S	EUR	Sell	19.0	15.0	(20.9)	70	118
Syngenta	CHF	Neutral	393.9	430.0	9.2	91	112
Yara	NOK	Neutral	320.0	275.0	(14.1)	78	124
<b>Specialties</b>							
Akzo Nobel	EUR	Neutral	58.9	59.0	0.2	87	117
Elementis	GBp	Buy	204.0	270.0	32.4	80	113
Ems-Chemie	CHF	Sell	508.0	415.0	(18.3)	93	127
Fuchs	EUR	Buy	37.8	46.5	23.2	84	113
Johnson Matthey	GBp	Neutral	3,240.0	3,300.0	1.9	92	145
Lonza	CHF	Neutral	180.0	185.0	2.8	95	133
Sika	CHF	Buy	4,870.0	5,140.0	5.5	98	144
Umicore	EUR	Buy	56.0	62.0	10.7	95	173
Victrex Plc	GBp	Neutral	1,720.0	1,510.0	(12.2)	89	126
<b>Diversified Specialties</b>							
Arkema	EUR	Buy	89.2	96.0	7.6	100	183
BASF SE	EUR	Buy	80.6	89.0	10.4	99	141
Borregaard	NOK	Sell	84.5	46.0	(45.6)	99	201
Clariant	CHF	Buy	16.3	19.3	18.3	85	106
Covestro	EUR	Buy	59.9	58.0	(3.1)	100	235
DSM	EUR	Neutral	57.7	59.0	2.2	90	139
Evonik	EUR	Neutral	26.1	26.0	(0.5)	77	106
Lanxess	EUR	Buy	58.5	64.0	9.5	98	175
Solvay	EUR	Sell	105.0	86.0	(18.1)	100	146
Synthomer	GBp	Sell	358.0	325.0	(9.2)	93	130
Wacker Chemie	EUR	Buy	82.9	93.0	12.2	95	141
<b>Consumer Facing Chemicals</b>							
Croda	GBp	Buy	3,260.0	4,000.0	22.7	89	122
Frutarom	ILS	Buy	208.2	245.0	17.7	98	120
Givaudan	CHF	Neutral	1,814.0	2,000.0	10.3	86	106
Kerry Group	EUR	Neutral	66.0	72.0	9.1	79	107
Symrise	EUR	Buy	56.1	72.0	28.5	82	104
<b>Industrial Gases</b>							
Air Liquide	EUR	Sell	94.6	88.0	(7.0)	83	109
Linde	EUR	Neutral	153.5	142.0	(7.5)	91	132
<b>Chemical Distributors</b>							
Brenntag	EUR	Neutral	48.5	50.0	3.1	93	120

Source: Share prices as of 25 Nov 2016, UBS estimates

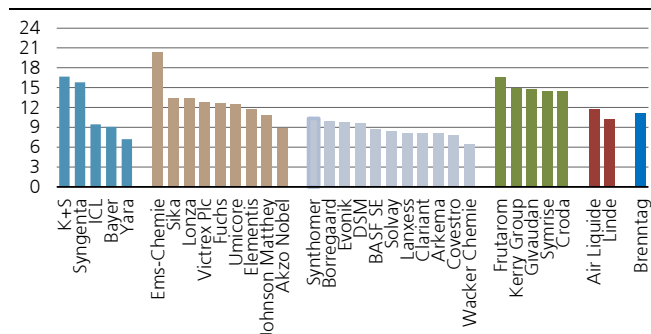


## European Value

Company	Local Currency	Share Price	% of 52 week high	Market Cap	EV/Revenue		EV/EBITDA		EV/Inv. Cap		P/E		EV FCF Yield		Equity FCF Yield		Dividend Yield		P/Book
					2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e
	(LC)		(%)	(LC)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(%)	(%)	(%)	(%)	(%)	(%)	(x)
<b>Agriculture</b>																			
Bayer	EUR	89	70	73,474	2.0	1.9	8.2	7.5	1.9	2.0	10.7	9.8	5.1	5.6	5.8	6.4	3.5	3.8	2.8
ICL	ILS	14	72	18,165	1.6	1.6	8.5	7.8	1.3	1.3	10.5	9.3	1.3	2.5	1.2	3.6	4.8	5.4	1.5
K+S	EUR	19	70	3,628	2.3	2.1	13.5	9.1	1.0	1.0	NA	11.8	(2.3)	0.0	(9.2)	(4.0)	0.8	3.8	0.8
Syngenta	CHF	394	91	36,420	2.8	2.7	13.7	12.2	3.8	3.8	20.7	18.1	4.7	5.0	4.5	4.9	3.6	4.1	4.2
Yara	NOK	320	78	87,697	1.0	1.0	6.4	6.3	1.2	1.1	11.2	11.3	4.8	7.6	4.2	7.7	4.0	4.0	1.0
				Mean	1.9	1.8	10.1	8.6	1.9	1.8	13.3	12.1	2.7	4.2	1.3	3.7	3.3	4.2	2.1
				Median	2.0	1.9	8.5	7.8	1.3	1.3	11.0	11.3	4.7	5.0	4.2	4.9	3.6	4.0	1.5
<b>Specialties</b>																			
Akzo Nobel	EUR	59	87	14,696	1.2	1.2	8.4	7.9	1.8	1.8	14.2	13.6	5.9	6.4	5.0	6.0	2.8	2.9	2.3
Elementis	GBP	204	80	945	2.1	2.1	10.5	9.8	2.5	2.5	17.0	15.8	6.3	6.2	6.1	6.0	5.3	5.3	1.9
Ems-Chemie	CHF	508	93	11,882	5.5	5.1	19.7	18.9	10.4	10.0	28.6	27.5	3.4	3.4	3.3	3.3	2.8	2.9	8.1
Fuchs	EUR	38	84	5,070	2.1	2.0	11.6	10.7	4.3	4.1	20.0	19.0	3.9	4.5	4.1	4.6	2.4	2.5	3.8
Johnson Matthey	GBP	3,240	92	6,495	2.1	2.0	10.8	10.3	2.8	2.5	15.4	14.7	4.2	4.2	4.1	4.3	2.5	2.6	2.7
Lonza	CHF	180	95	9,526	2.7	2.6	12.1	11.0	2.0	2.0	20.1	18.3	4.2	4.9	4.3	5.1	1.7	1.9	3.6
Sika	CHF	4,870	98	12,344	2.0	1.8	11.7	10.5	5.2	4.9	20.6	18.5	5.3	5.9	5.0	5.6	1.9	2.1	3.8
Umicore	EUR	56	95	6,103	2.1	1.9	11.3	9.8	2.8	2.6	21.6	18.6	1.8	1.8	1.4	1.4	2.2	2.2	3.4
Victrix Plc	GBP	1,720	89	1,468	5.6	5.1	12.2	11.2	4.3	4.0	18.4	16.7	4.6	4.8	4.4	4.6	5.6	3.0	3.6
				Mean	2.8	2.6	12.0	11.1	4.0	3.8	19.5	18.1	4.4	4.7	4.2	4.5	3.0	2.8	3.7
				Median	2.1	2.0	11.6	10.5	2.8	2.6	20.0	18.3	4.2	4.8	4.3	4.6	2.5	2.6	3.6
<b>Diversified Specialties</b>																			
Arkema	EUR	89	100	6,573	1.2	1.1	7.7	7.2	1.6	1.5	13.7	12.8	4.7	5.5	5.2	6.2	2.6	2.8	1.5
BASF SE	EUR	81	99	74,052	1.4	1.3	7.8	7.2	1.8	1.7	14.1	13.1	5.4	5.5	5.7	5.7	4.0	4.4	2.2
Borregaard	NOK	85	99	8,450	1.9	1.9	10.5	10.7	3.1	3.0	20.4	22.0	4.0	3.7	3.9	3.5	2.0	2.1	3.2
Clariant	CHF	16	85	5,290	1.1	1.1	7.5	6.9	1.2	1.2	11.3	10.3	6.2	6.8	6.4	7.4	2.9	3.2	1.7
Covestro	EUR	60	100	12,126	1.2	1.1	6.9	6.0	1.9	1.8	14.6	12.8	7.7	9.0	7.9	8.8	2.2	2.6	2.5
DSM	EUR	58	90	10,087	1.4	1.3	8.3	7.8	1.3	1.3	16.4	15.2	6.1	6.7	5.1	6.6	3.0	3.3	1.7
Evonik	EUR	26	77	12,172	1.4	1.3	8.6	7.9	1.3	1.3	14.9	13.0	5.1	5.4	6.1	6.5	4.5	4.7	1.2
Lanxess	EUR	58	98	5,351	1.2	1.0	8.7	6.6	1.7	1.4	15.6	11.5	(0.1)	4.8	(1.6)	7.6	1.9	2.6	1.6
Solvay	EUR	105	100	10,950	1.6	1.5	8.1	7.6	1.3	1.2	12.8	11.6	3.4	4.6	3.8	5.9	3.3	3.5	1.2
Synthomer	GBP	358	93	1,225	1.3	1.2	10.0	9.6	2.5	2.5	14.5	14.2	4.7	5.4	4.9	5.7	3.1	3.2	3.8
Wacker Chemie	EUR	83	95	4,116	1.1	1.0	5.5	5.0	1.3	1.3	15.1	13.8	7.5	7.9	11.1	10.9	3.3	3.6	1.8
				Mean	1.4	1.3	8.1	7.5	1.7	1.6	14.9	13.7	5.0	5.9	5.3	6.8	3.0	3.3	2.0
				Median	1.3	1.2	8.1	7.2	1.6	1.4	14.6	13.0	5.1	5.5	5.2	6.5	3.0	3.2	1.7
<b>Consumer Facing Chemicals</b>																			
Croda	GBP	3,260	89	4,417	3.6	3.4	13.0	11.9	4.2	4.0	19.1	18.0	3.6	4.7	3.7	4.9	2.6	2.8	5.0
Frutarom	ILS	208	98	12,136	2.8	2.6	14.0	12.4	3.4	3.2	19.6	17.9	4.1	5.2	4.3	5.3	1.2	1.3	14.8
Givaudan	CHF	1,814	86	16,750	3.6	3.5	13.9	13.2	4.1	4.0	19.3	18.6	4.6	4.9	4.5	4.7	3.3	3.4	5.2
Kerry Group	EUR	66	79	11,572	2.0	1.9	14.0	12.5	2.4	2.3	19.3	17.6	4.2	5.3	4.3	5.5	0.9	1.0	3.1
Symrise	EUR	56	82	7,276	2.8	2.6	12.9	11.6	2.5	2.5	19.9	17.8	4.1	4.4	4.3	4.7	1.7	2.0	3.9
				Mean	3.0	2.8	13.6	12.3	3.3	3.2	19.4	17.9	4.1	4.9	4.2	5.0	1.9	2.1	6.4
				Median	2.8	2.6	13.9	12.4	3.4	3.2	19.3	17.9	4.1	4.9	4.3	4.9	1.7	2.0	5.0
<b>Industrial Gases</b>																			
Air Liquide	EUR	95	83	36,514	2.6	2.5	10.2	9.6	1.7	1.7	17.2	16.2	2.9	3.7	3.2	4.4	2.8	2.9	2.1
Linde	EUR	154	91	28,491	2.2	2.1	9.6	8.9	1.6	1.5	19.2	17.6	4.2	5.4	4.7	6.2	2.4	2.5	1.8
				Mean	2.4	2.3	9.9	9.3	1.6	1.6	18.2	16.9	3.6	4.5	4.0	5.3	2.6	2.7	1.9
				Median	2.4	2.3	9.9	9.3	1.6	1.6	18.2	16.9	3.6	4.5	4.0	5.3	2.6	2.7	1.9
<b>Chemical Distributors</b>																			
Brenntag	EUR	49	93	7,493	0.8	0.7	9.9	9.1	1.9	1.8	17.9	16.6	4.9	5.5	4.8	5.3	2.1	2.2	2.4
<b>European Chemical sector</b>																			
				Mean	2.1	2.0	10.5	9.5	2.6	2.5	17.0	15.6	4.3	5.1	4.1	5.3	2.8	3.0	3.1
				Median	2.1	1.9	10.5	9.7	2.0	2.0	17.9	16.4	4.4	5.1	4.4	5.3	2.6	2.8	2.6

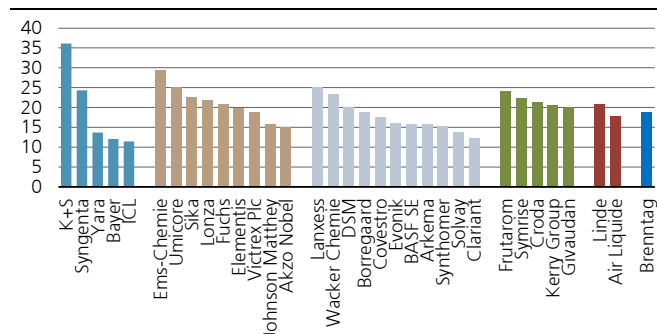
Source: UBS estimates, priced as at 25 Nov 2016; Note: Data for Johnson Matthey (FY-ending March) and Victrix (FY-ending September) are not calendarised.

Figure 10: EV/EBITDA, 2016e



Source: UBS estimates

Figure 11: P/E, 2016e



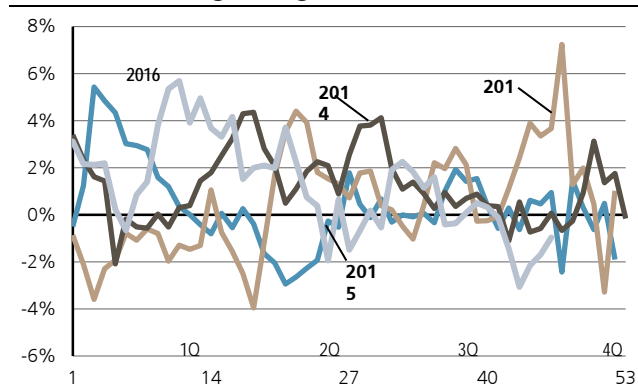
Source: UBS estimates

## European Absolute

Company	Reporting Currency	Revenue			EBITDA				EBITA			EPS			DPS	
		2016e	2017e	2018e	2015	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2017e	2018e
		(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)
<b>Agriculture</b>																
Bayer	EUR	47,351	49,769	51,926	10,266	11,154	12,075	12,945	7,907	8,707	9,535	7.34	8.26	9.02	3.10	3.40
ICL	USD	5,534	5,667	5,732	1,208	915	1,077	1,180	555	717	820	0.32	0.35	0.40	0.18	0.20
K+S	EUR	3,456	3,819	4,365	1,058	491	652	1,012	203	207	567	0.53	0.32	1.61	0.14	0.72
Syngenta	USD	12,872	13,762	14,574	2,770	2,503	2,845	3,165	1,957	2,275	2,569	15.91	18.74	21.37	14.00	16.00
Yara	NOK	105,022	108,145	110,435	21,037	14,823	16,758	17,004	8,008	10,403	10,282	23.37	28.48	28.44	12.85	12.84
<b>Specialties</b>																
Akzo Nobel	EUR	14,245	14,744	15,030	2,088	2,071	2,170	2,252	1,583	1,669	1,738	3.95	4.15	4.33	1.66	1.73
Elementis	USD	646	670	695	150	124	137	146	99	110	118	0.16	0.19	0.20	13.48	13.48
Ems-Chemie	CHF	1,982	2,100	2,223	525	568	581	604	512	522	542	17.27	17.76	18.46	14.00	14.50
Fuchs	EUR	2,250	2,330	2,415	363	396	424	451	344	362	382	1.81	1.89	1.99	0.91	0.96
Johnson Matthey	GBP	3,415	3,581	3,816	590	663	682	709	504	525	553	2.06	2.17	2.31	0.84	0.89
Lonza	CHF	4,035	4,245	4,436	793	890	959	1,028	610	657	711	8.26	8.95	9.82	3.13	3.44
Sika	CHF	5,829	6,253	6,675	837	950	1,059	1,144	789	846	922	216.68	236.64	262.86	94.00	104.00
Umicore	EUR	2,716	3,000	3,420	483	506	563	657	333	382	449	2.24	2.59	3.01	1.26	1.26
Victrex Plc	GBP	251	254	278	116	112	117	128	97	101	112	0.92	0.94	1.04	0.97	0.52
<b>Diversified Specialties</b>																
Arkema	EUR	7,473	8,069	8,319	1,057	1,170	1,258	1,327	730	792	846	5.70	6.51	6.96	2.35	2.50
BASF SE	EUR	57,060	60,718	64,209	10,450	10,076	11,049	11,792	6,301	7,169	7,797	5.07	5.72	6.13	3.20	3.50
Borregaard	NOK	4,480	4,531	4,612	751	887	836	802	643	593	559	4.52	4.15	3.84	1.70	1.80
Clariant	CHF	5,939	6,234	6,445	853	899	952	996	691	734	771	1.34	1.44	1.58	0.48	0.52
Covestro	EUR	11,537	12,112	12,628	1,641	1,904	2,051	2,233	1,217	1,373	1,526	3.42	4.11	4.66	1.35	1.53
DSM	EUR	7,989	8,476	8,818	1,075	1,264	1,437	1,481	765	914	943	2.89	3.52	3.79	1.75	1.90
Evonik	EUR	12,521	13,732	14,306	2,465	1,983	2,208	2,412	1,268	1,363	1,542	1.62	1.75	2.02	1.18	1.22
Lanxess	EUR	7,656	8,643	9,849	878	955	1,185	1,501	502	689	962	2.34	3.74	5.10	1.12	1.53
Solvay	EUR	12,132	12,656	13,064	1,942	2,455	2,493	2,585	1,655	1,671	1,749	7.62	8.20	9.02	3.45	3.65
Synthomer	GBP	1,000	1,125	1,149	125	140	145	150	114	115	120	0.23	0.25	0.25	0.11	0.11
Wacker Chemie	EUR	5,414	5,594	5,830	1,049	1,068	1,167	1,197	341	447	487	3.57	5.48	6.02	2.74	3.01
<b>Consumer Facing Chemicals</b>																
Croda	GBP	1,232	1,357	1,400	303	340	375	401	295	324	345	1.53	1.70	1.81	0.85	0.91
Frutarom	USD	1,156	1,270	1,333	162	217	254	275	176	210	229	2.24	2.74	3.01	0.64	0.70
Givaudan	CHF	4,663	4,861	5,055	1,070	1,216	1,272	1,322	1,093	1,138	1,181	90.12	94.00	97.75	59.54	61.91
Kerry Group	EUR	6,084	6,295	6,564	826	878	907	975	703	737	791	3.22	3.42	3.75	0.60	0.65
Symrise	EUR	2,920	3,057	3,264	572	613	673	733	524	582	635	2.52	2.82	3.16	0.98	1.11
<b>Industrial Gases</b>																
Air Liquide	EUR	18,705	21,170	21,833	4,262	4,752	5,456	5,752	3,138	3,634	3,837	5.31	5.49	5.85	2.63	2.73
Linde	EUR	17,235	17,652	18,233	4,119	3,963	4,118	4,320	2,356	2,477	2,641	7.39	7.99	8.72	3.70	3.90
<b>Chemical Distributors</b>																
Brenntag	EUR	10,936	11,189	11,491	807	838	868	912	717	745	785	2.57	2.71	2.91	1.00	1.09

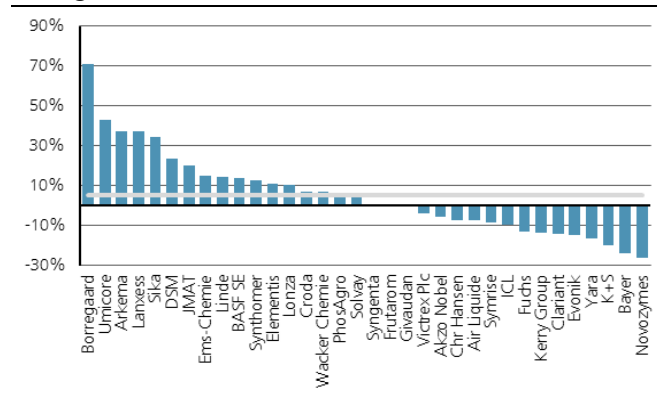
Source: UBS estimates, Note: Data for Johnson Matthey (FY-ending March) and Victrex (FY-ending September) are not calendarised.

**Figure 12: Year-on-year change in US Railcar shipments (four-week moving average)**



Source: Association of American Railroads, UBS

**Figure 13: EU Chemicals YTD absolute performance vs. average**



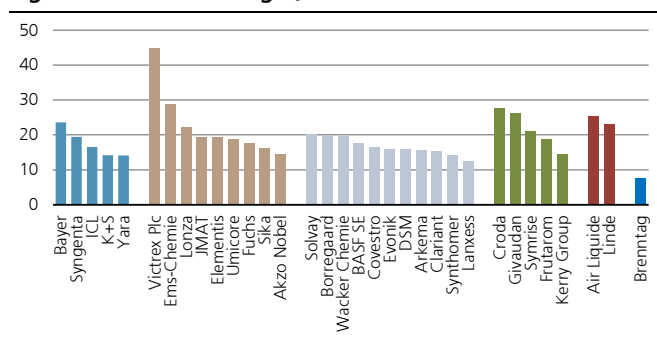
Source: Thomson Financial

## European Profitability

Company	EBITDA margin		EBITA margin		Gross margin		PAT margin		ROIC (pre-tax)		ROIC (post-tax)		ROE	
	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Agriculture</b>														
Bayer	24.3	24.9	17.5	18.4	56.5	57.0	13.7	14.4	17.2	19.2	13.1	14.6	27.1	28.9
ICL	19.0	20.6	12.6	14.3	29.6	31.3	7.9	8.8	10.6	11.5	7.6	8.0	13.8	15.2
K+S	17.1	23.2	5.4	13.0	37.5	44.8	1.6	7.0	2.4	6.2	1.7	4.5	1.4	6.8
Syngenta	20.7	21.7	16.5	17.6	45.8	46.9	12.6	13.5	21.9	25.4	18.1	20.9	20.4	22.4
Yara	15.5	15.4	9.6	9.3	26.8	26.7	7.1	6.9	11.5	11.0	9.0	8.6	9.5	8.9
Mean	19.3	21.2	12.3	14.5	39.3	41.4	8.6	10.1	12.7	14.7	9.9	11.3	14.4	16.4
Median	19.0	21.7	12.6	14.3	37.5	44.8	7.9	8.8	11.5	11.5	9.0	8.6	13.8	15.2
<b>Specialties</b>														
Akzo Nobel	14.7	15.0	11.3	11.6	40.8	41.1	7.1	7.3	16.7	17.4	11.4	12.0	16.6	16.3
Elementis	20.4	21.1	16.4	17.1	37.0	37.6	12.9	13.3	19.2	20.7	15.6	16.7	13.8	14.5
Ems-Chemie	27.7	27.2	24.9	24.4	44.8	44.3	19.8	19.4	47.2	47.4	39.0	39.1	29.1	28.5
Fuchs	18.2	18.7	15.6	15.8	38.3	38.4	11.2	11.4	31.6	32.0	22.0	22.2	20.0	18.9
Johnson Matthey	19.1	18.6	14.7	14.5	24.6	23.7	11.6	11.6	19.6	19.0	16.5	15.8	20.5	18.9
Lonza	22.6	23.2	15.5	16.0	29.9	30.4	11.0	11.6	11.5	12.4	9.2	10.0	18.7	18.4
Sika	16.9	17.1	13.5	13.8	55.0	54.8	9.6	10.0	35.6	37.7	26.7	28.3	19.4	19.1
Umicore	18.8	19.2	12.7	13.1	34.9	36.3	9.3	9.5	16.7	17.9	12.7	13.4	16.5	17.4
Victrex Plc	46.1	45.9	40.0	40.3	66.5	65.4	31.6	31.8	30.3	31.8	23.9	25.1	20.2	21.2
Mean	22.7	22.9	18.3	18.5	41.3	41.3	13.8	14.0	25.4	26.2	19.7	20.3	19.4	19.2
Median	19.1	19.2	15.5	15.8	38.3	38.4	11.2	11.6	19.6	20.7	16.5	16.7	19.4	18.9
<b>Diversified Specialties</b>														
Arkema	15.6	15.9	9.8	10.2	21.2	21.5	5.9	6.2	13.5	13.6	9.0	9.1	11.1	11.1
BASF SE	18.2	18.4	11.8	12.1	30.2	30.3	8.6	8.8	14.7	15.8	11.3	12.0	15.9	16.1
Borregaard	18.4	17.4	13.1	12.1	18.4	17.4	9.2	8.3	21.0	19.2	15.3	13.8	16.5	13.9
Clariant	15.3	15.5	11.8	12.0	32.4	32.1	7.5	7.9	12.7	13.0	9.7	9.9	16.1	15.7
Covestro	16.9	17.7	11.3	12.1	26.7	26.5	6.9	7.5	18.7	20.2	13.1	14.1	17.9	18.1
DSM	17.0	16.8	10.8	10.7	30.6	30.5	7.3	7.5	10.2	10.5	8.1	8.4	10.3	10.6
Evonik	16.1	16.9	9.9	10.8	28.9	29.2	5.9	6.6	9.5	10.6	6.6	7.4	8.5	9.0
Lanxess	13.7	15.2	8.0	9.8	24.5	25.9	4.0	4.7	11.5	13.0	7.5	8.5	10.5	13.5
Solvay	19.7	19.8	13.2	13.4	23.9	24.1	6.8	7.2	10.5	11.0	7.7	8.3	9.1	9.7
Synthomer	12.8	13.1	10.2	10.4	22.5	22.7	7.5	7.4	19.7	20.6	16.2	16.5	27.6	24.6
Wacker Chemie	20.9	20.5	8.0	8.4	20.4	20.7	4.9	5.1	9.2	10.5	6.5	7.3	12.7	12.9
Mean	16.8	17.0	10.7	11.1	25.4	25.5	6.8	7.0	13.7	14.4	10.1	10.5	14.2	14.1
Median	16.9	16.9	10.8	10.8	24.5	25.9	6.9	7.4	12.7	13.0	9.0	9.1	12.7	13.5
<b>Consumer Facing Chemicals</b>														
Croda	27.6	28.6	23.9	24.7	34.6	35.4	16.4	17.0	28.1	29.0	20.1	20.6	28.3	25.7
Frutarom	20.0	20.6	16.5	17.2	40.0	40.0	12.7	13.2	20.2	21.7	16.6	17.8	21.5	19.5
Givaudan	26.2	26.2	23.4	23.4	51.3	51.2	17.9	17.9	26.3	27.4	21.6	22.4	28.0	26.9
Kerry Group	14.4	14.9	11.7	12.1	37.5	38.0	9.6	10.1	13.8	14.8	12.0	12.8	17.2	16.4
Symrise	22.0	22.4	19.0	19.5	43.6	44.4	12.0	12.6	17.0	18.6	12.0	13.2	20.6	20.9
Mean	22.0	22.5	18.9	19.3	41.4	41.8	13.7	14.1	21.1	22.3	16.5	17.4	23.1	21.9
Median	22.0	22.4	19.0	19.5	40.0	40.0	12.7	13.2	20.2	21.7	16.6	17.8	21.5	20.9
<b>Industrial Gases</b>														
Air Liquide	25.8	26.3	17.2	17.6	44.6	45.1	10.3	10.6	11.1	11.5	7.7	8.0	12.3	12.3
Linde	23.3	23.7	14.0	14.5	36.7	37.3	8.4	8.9	9.9	10.6	7.5	8.0	9.6	10.1
Mean	24.6	25.0	15.6	16.0	40.6	41.2	9.3	9.7	10.5	11.0	7.6	8.0	11.0	11.2
Median	24.6	25.0	15.6	16.0	40.6	41.2	9.3	9.7	10.5	11.0	7.6	8.0	11.0	11.2
<b>Chemical Distributors</b>														
Brenntag	7.8	7.9	6.7	6.8	21.8	21.9	3.7	3.9	16.2	17.0	10.7	11.2	13.7	13.5
Mean	19.8	20.3	14.4	15.0	35.1	35.6	10.1	10.5	17.8	18.7	13.5	14.2	16.8	16.9
Median	18.8	19.2	13.1	13.4	34.6	35.4	9.2	8.9	16.7	17.4	12.0	12.8	16.5	16.3

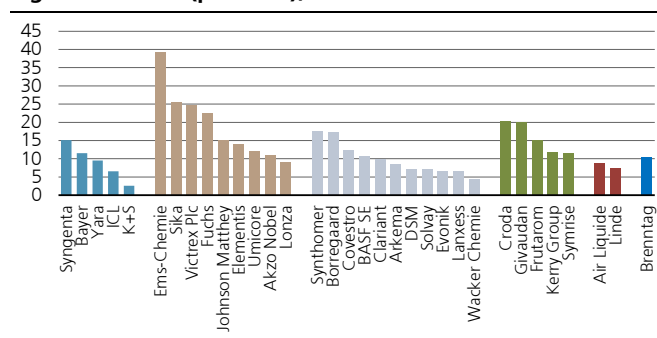
Source: UBS estimates, Note: Data for Johnson Matthey (FY-ending March) and Victrex (FY-ending September) are not calendarised.

Figure 14: EBITDA margin, 2016e



Source: UBS estimates

Figure 15: ROIC (post-tax), 2016e



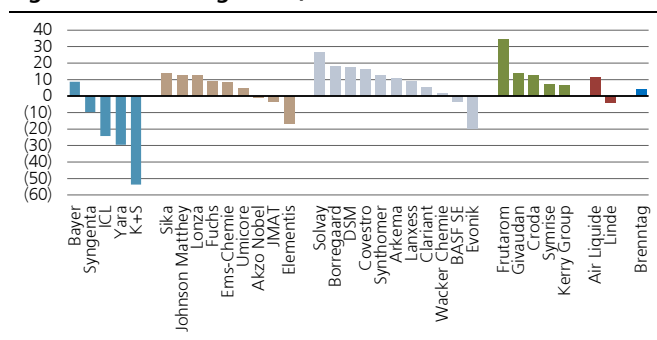
Source: UBS estimates

## European Momentum & Debt

Company	Year End	Reporting Currency	Net debt		Revenue growth		EBITDA growth		EBITA growth		EPS growth		Int. cover (EBITA)		ND as % of EV	
			2017e	2018e	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2017e	2018e	2017e	2018e
			(LC)	(LC)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(x)	(x)	(%)	(%)
Agriculture																
Bayer	Dec	EUR	12,712	11,152	5.1	4.3	8.3	7.2	10.1	9.5	12.5	9.2	19.6	22.7	12.9	11.5
ICL	Dec	USD	3,866	3,949	2.4	1.1	17.7	9.6	29.1	14.4	8.9	12.8	5.1	5.6	42.4	43.0
K+S	Dec	EUR	3,367	3,737	10.5	14.3	32.8	55.3	2.3	173.5	(39.1)	402.3	1.6	3.8	38.3	40.6
Syngenta	Dec	USD	2,712	1,959	6.9	5.9	13.7	11.3	16.2	12.9	17.7	14.0	10.6	13.5	6.9	5.1
Yara	Dec	NOK	17,240	14,738	3.0	2.1	13.1	1.5	29.9	(1.2)	21.8	(0.1)	16.9	16.4	16.1	13.8
Mean					5.6	5.6	17.1	17.0	17.5	41.8	4.4	87.6	10.8	12.4	23.3	22.8
Median					5.1	4.3	13.7	9.6	16.2	12.9	12.5	12.8	10.6	13.5	16.1	13.8
Specialties																
Akzo Nobel	Dec	EUR	915	372	3.5	1.9	4.8	3.7	5.5	4.1	5.1	4.3	22.4	24.7	5.0	2.1
Elementis	Dec	USD	(93)	(104)	3.7	3.7	10.0	7.0	11.6	7.7	16.3	7.4	27.7	29.9	(6.5)	(7.3)
Ems-Chemie	Dec	CHF	(547)	(601)	5.9	5.9	2.3	4.0	1.9	3.8	2.8	4.0	47.5	49.3	(4.8)	(5.3)
Fuchs	Dec	EUR	(230)	(338)	3.6	3.6	7.0	6.3	5.2	5.3	4.6	5.2	122.7	132.8	(4.7)	(7.0)
Johnson Matthey	Mar	GBP	612	501	4.9	6.5	2.9	4.0	4.3	5.2	5.2	6.4	15.3	15.8	8.6	7.0
Lonza	Dec	CHF	1,583	1,280	5.2	4.5	7.8	7.2	7.8	8.2	8.3	9.8	9.1	10.3	13.6	11.3
Sika	Dec	CHF	(690)	(1,035)	7.3	6.8	11.4	8.0	7.2	9.0	9.2	11.1	21.3	33.5	(5.6)	(8.6)
Umicore	Dec	EUR	388	436	10.5	14.0	11.3	16.7	14.6	17.5	15.7	16.1	15.3	17.0	6.1	6.8
Victrex Plc	Sep	GBP	(59)	(83)	1.0	9.5	4.2	9.0	4.9	10.3	2.3	10.3	NA	NA	(4.1)	(5.8)
Mean					5.1	6.3	6.9	7.3	7.0	7.9	7.7	8.3	35.2	39.2	0.9	(0.7)
Median					4.9	5.9	7.0	7.0	5.5	7.7	5.2	7.4	21.8	27.3	(4.1)	(5.3)
Diversified Specialties																
Arkema	Dec	EUR	1,363	1,130	8.0	3.1	7.5	5.5	8.6	6.8	(14.2)	6.9	9.8	9.9	14.1	11.9
BASF SE	Dec	EUR	11,973	10,706	6.4	5.8	9.6	6.7	13.8	8.8	12.6	7.2	13.9	15.6	13.9	12.5
Borregaard	Dec	NOK	217	75	1.1	1.8	(5.7)	(4.1)	(7.8)	(5.7)	(8.2)	(7.5)	23.7	22.4	2.5	0.9
Clariant	Dec	CHF	1,370	1,149	5.0	3.4	5.8	4.7	6.1	5.0	7.9	9.4	7.3	9.8	19.3	16.7
Covestro	Dec	EUR	2,375	2,375	5.0	4.3	7.8	8.9	12.8	11.1	20.1	13.6	8.5	9.9	16.8	17.8
DSM	Dec	EUR	1,929	1,576	6.1	4.0	13.7	3.1	19.5	3.1	21.9	7.8	8.0	9.2	16.1	13.6
Evonik	Dec	EUR	2,306	2,084	9.7	4.2	11.3	9.2	7.4	13.1	7.7	15.2	10.1	11.7	12.1	11.0
Lanxess	Dec	EUR	2,769	2,463	12.9	14.0	24.1	26.6	37.2	39.7	59.5	36.4	9.2	12.9	26.9	24.7
Solvay	Dec	EUR	3,976	3,692	4.3	3.2	1.5	3.7	1.0	4.7	7.6	10.0	5.2	5.6	19.8	18.9
Synthomer	Dec	GBP	138	103	12.6	2.1	3.1	3.7	0.9	4.1	5.3	1.7	15.5	n/m	9.5	7.2
Wacker Chemie	Dec	EUR	572	259	3.3	4.2	9.3	2.5	31.2	9.1	53.7	9.9	22.3	24.4	9.0	4.3
Mean					6.8	4.5	8.0	6.4	11.9	9.1	15.8	10.1	12.2	13.1	14.5	12.7
Median					6.1	4.0	7.8	4.7	8.6	6.8	7.9	9.4	9.8	10.8	14.1	12.5
Consumer Facing Chemicals																
Croda	Dec	GBP	328	225	10.1	3.1	10.2	6.9	9.8	6.7	11.2	6.6	26.4	31.3	6.8	4.7
Frutarom	Dec	USD	326	172	9.9	4.9	17.0	8.3	19.4	9.0	22.6	9.7	17.2	18.7	9.2	5.0
Givaudan	Dec	CHF	578	367	4.2	4.0	4.6	3.9	4.2	3.7	4.3	4.0	14.2	14.8	3.3	2.1
Kerry Group	Dec	EUR	1,070	563	3.5	4.3	3.3	7.5	4.8	7.3	6.3	9.7	11.8	13.8	8.4	4.6
Symrise	Dec	EUR	1,186	971	4.7	6.8	9.8	8.8	11.2	9.1	12.0	11.8	13.8	18.8	13.6	11.5
Mean					6.5	4.6	9.0	7.1	9.9	7.2	11.3	8.4	16.7	19.5	8.2	5.6
Median					4.7	4.3	9.8	7.5	9.8	7.3	11.2	9.7	14.2	18.7	8.4	4.7
Industrial Gases																
Air Liquide	Dec	EUR	15,491	14,984	13.2	3.1	14.8	5.4	15.8	5.6	3.4	6.5	8.4	9.0	27.8	27.1
Linde	Dec	EUR	7,332	6,265	2.4	3.3	3.9	4.9	5.1	6.6	8.0	9.1	7.1	8.2	18.5	16.3
Mean					7.8	3.2	9.4	5.2	10.5	6.1	5.7	7.8	7.8	8.6	23.2	21.7
Median					7.8	3.2	9.4	5.2	10.5	6.1	5.7	7.8	7.8	8.6	23.2	21.7
Chemical Distributors																
Brenntag	Dec	EUR	1,316	1,065	2.3	2.7	3.6	5.0	3.9	5.4	5.3	7.5	7.8	9.0	15.2	12.9
European Chemical sector				Mean	6.0	5.0	9.2	8.2	10.8	13.1	10.3	20.9	18.0	20.3	11.7	10.0
				Median	5.0	4.2	8.3	6.7	7.8	7.3	8.0	9.2	13.9	14.8	12.1	11.0

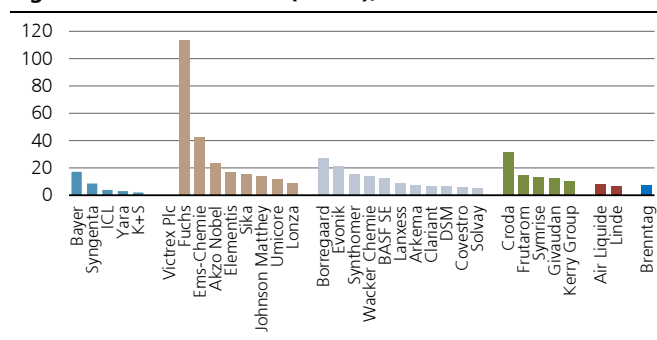
Source: UBS estimates, Note: Data for Johnson Matthey (FY-ending March) and Victrex (FY-ending September) are not calendarised.

Figure 16: EBITDA growth, 2016e vs. 2015e



Source: UBS estimates

Figure 17: Interest cover (EBITA), 2016e



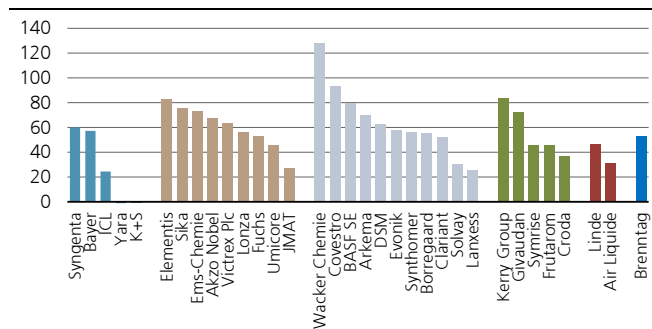
Source: UBS estimates

## European Cash Flow

Company	Reporting Currency	Capex/D&A			EBITA/Capex			Enterprise FCF/EBITA			Enterprise FCF			Equity FCF		
		2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e
		(%)	(%)	(%)	(x)	(x)	(x)	(%)	(%)	(%)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)
<b>Agriculture</b>																
Bayer	EUR	86.7	86.8	89.6	2.8	3.0	3.1	57.1	58.0	57.3	4,516	5,046	5,460	3,642	4,266	4,707
ICL	USD	178.2	180.6	180.6	0.9	1.1	1.3	24.3	16.7	28.1	135	120	231	64	58	168
K+S	EUR	459.0	186.5	164.4	0.2	0.3	0.8	(407.7)	(97.1)	0.6	(827)	(202)	4	(929)	(334)	(146)
Syngenta	USD	110.9	112.4	112.9	3.2	3.6	3.8	60.0	80.2	75.6	1,175	1,824	1,943	986	1,610	1,753
Yara	NOK	234.8	154.9	106.8	0.5	1.1	1.4	(28.9)	49.0	79.5	(2,317)	5,099	8,170	(3,229)	3,693	6,738
Mean		213.9	144.2	130.8	1.5	1.8	2.1	(59.0)	21.4	48.2	536	2,378	3,161	107	1,859	2,644
Median		178.2	154.9	112.9	0.9	1.1	1.4	24.3	49.0	57.3	135	1,824	1,943	64	1,610	1,753
<b>Specialties</b>																
Akzo Nobel	EUR	108.6	109.2	109.1	3.0	3.0	3.1	67.3	63.9	64.8	1,064	1,067	1,126	675	736	879
Elementis	USD	116.1	149.3	143.9	3.3	2.7	3.0	83.0	82.7	74.8	82	91	89	81	90	88
Ems-Chemie	CHF	107.2	107.2	125.0	8.6	8.3	7.0	72.7	74.5	72.4	372	389	393	372	389	393
Fuchs	EUR	193.1	162.2	144.8	3.4	3.6	3.8	53.0	53.5	57.1	182	194	218	198	209	233
Johnson Matthey	GBP	174.5	161.6	161.4	1.8	2.1	2.2	27.1	56.3	54.4	136	296	300	103	263	272
Lonza	CHF	119.5	112.5	104.9	1.8	1.9	2.1	56.1	73.8	77.6	342	485	551	272	412	482
Sika	CHF	81.6	75.6	77.6	6.0	5.3	5.4	75.6	77.1	77.1	596	652	712	554	617	686
Umicore	EUR	137.9	144.2	133.2	1.4	1.5	1.6	45.4	29.5	25.8	151	113	116	120	86	88
Victrex Plc	GBP	225.0	192.9	192.9	2.8	3.4	3.7	63.7	64.2	61.4	62	65	69	62	65	69
Mean		140.4	134.9	132.5	3.6	3.5	3.5	60.4	63.9	62.8	332	372	397	271	319	354
Median		119.5	144.2	133.2	3.0	3.0	3.1	63.7	64.2	64.8	182	296	300	198	263	272
<b>Diversified Specialties</b>																
Arkema	EUR	103.9	105.1	102.5	1.6	1.6	1.7	70.2	57.5	62.1	512	456	525	381	341	406
BASF SE	EUR	105.2	95.0	92.1	1.6	1.9	2.1	79.4	65.6	60.3	5,002	4,701	4,706	4,492	4,187	4,206
Borregaard	NOK	129.7	130.9	130.9	2.0	1.9	1.8	55.3	59.3	56.6	356	352	316	338	333	298
Clariant	CHF	154.3	157.1	157.1	2.2	2.1	2.2	52.2	60.0	60.7	361	440	468	257	340	389
Covestro	EUR	58.8	82.1	82.1	3.0	2.5	2.6	93.2	79.1	78.5	1,135	1,086	1,198	975	952	1,071
DSM	EUR	103.5	104.7	105.7	1.5	1.7	1.7	62.1	79.3	82.0	475	725	773	255	513	670
Evonik	EUR	129.4	104.0	105.2	1.4	1.6	1.7	57.6	71.7	66.2	730	977	1,020	567	745	789
Lanxess	EUR	99.4	91.9	88.6	1.1	1.5	2.0	25.4	(1.7)	50.3	128	(12)	484	68	(87)	409
Solvay	EUR	118.6	111.8	106.5	1.7	1.8	2.0	29.9	40.6	51.2	495	679	895	257	420	644
Synthomer	GBP	133.1	135.3	99.4	3.3	2.9	4.0	55.9	58.7	64.4	64	68	77	56	60	69
Wacker Chemie	EUR	60.6	59.9	62.8	0.8	1.0	1.1	128.0	107.0	96.3	436	478	470	311	458	450
Mean		108.8	107.1	103.0	1.8	1.9	2.1	64.5	61.6	66.2	881	905	994	723	751	855
Median		105.2	104.7	102.5	1.6	1.8	2.0	57.6	60.0	62.1	475	478	525	311	420	450
<b>Consumer Facing Chemicals</b>																
Croda	GBP	263.5	166.2	126.5	2.5	3.8	4.9	36.8	54.3	65.2	109	176	225	99	164	214
Frutarom	USD	77.9	80.2	80.1	5.4	5.9	6.1	45.3	70.2	77.3	80	147	177	68	136	166
Givaudan	CHF	150.7	145.3	142.8	5.9	5.9	5.8	71.7	71.9	72.4	784	819	855	709	753	789
Kerry Group	EUR	122.0	148.1	107.1	3.3	2.9	4.0	83.4	71.9	82.4	587	530	652	547	497	632
Symrise	EUR	207.9	202.6	189.8	2.8	3.2	3.4	45.8	61.2	59.0	240	356	375	200	314	341
Mean		164.4	148.5	129.3	4.0	4.3	4.9	56.6	65.9	71.3	360	406	457	325	373	428
Median		150.7	148.1	126.5	3.3	3.8	4.9	45.8	70.2	72.4	240	356	375	200	314	341
<b>Industrial Gases</b>																
Air Liquide	EUR	144.0	127.6	121.4	1.3	1.6	1.7	31.2	44.5	52.8	980	1,617	2,026	581	1,182	1,600
Linde	EUR	109.4	106.3	109.5	1.3	1.4	1.4	46.6	67.8	78.6	1,098	1,679	2,075	718	1,334	1,754
Mean		126.7	117.0	115.4	1.3	1.5	1.5	38.9	56.2	65.7	1,039	1,648	2,051	650	1,258	1,677
Median		126.7	117.0	115.4	1.3	1.5	1.5	38.9	56.2	65.7	1,039	1,648	2,051	650	1,258	1,677
<b>Chemical Distributors</b>																
Brenntag	EUR	123.0	113.7	104.4	4.8	5.3	5.9	53.0	56.8	58.2	380	423	457	313	359	399
Mean		143.3	127.4	120.0	2.6	2.8	3.0	41.6	56.3	63.1	595	937	1,126	429	763	961
Median		122.0	113.7	109.1	2.2	2.1	2.2	55.9	61.2	64.4	372	456	484	272	389	409

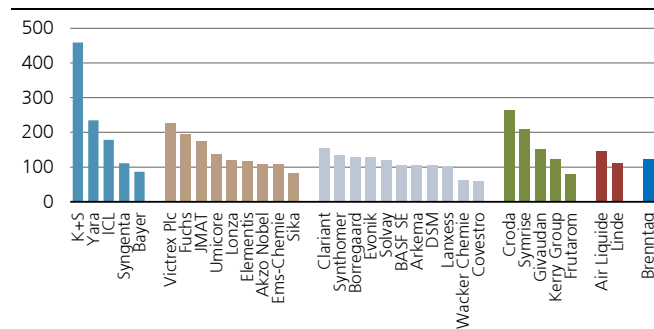
Source: UBS estimates, Note: Data for Johnson Matthey (FY-ending March) and Victrex (FY-ending September) are not calendarised.

Figure 18: EV FCF/ EBITA, 2016e



Source: UBS estimates

Figure 19: Capex/D&A, 2016e



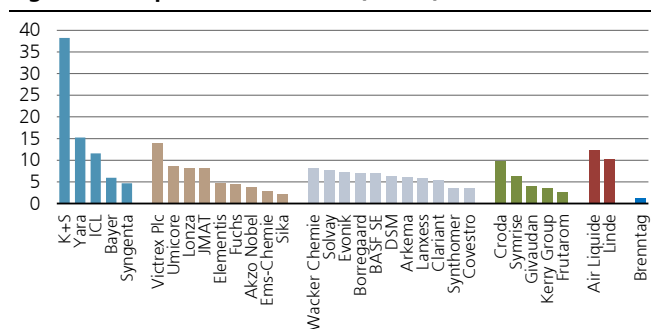
Source: UBS estimates

## European Productivity

Company	Reported tax rate			D&A/Revenue			Capex/Revenue			NTFA/Revenue			NWC/Revenue		
	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Agriculture</b>															
Bayer	23.9	23.9	23.9	6.9	6.8	6.6	5.9	5.9	5.9	26.2	24.9	24.1	15.4	12.0	10.0
ICL	25.0	28.0	30.0	6.5	6.4	6.3	11.6	11.5	11.3	78.7	81.8	86.0	26.9	29.3	30.2
K+S	5.5	28.3	28.3	8.3	11.6	10.2	38.2	21.7	16.7	165.2	174.1	164.6	25.4	23.1	22.2
Syngenta	19.2	17.5	17.7	4.2	4.1	4.1	4.7	4.7	4.6	26.9	26.3	26.0	36.4	32.8	28.9
Yara	0.0	21.4	21.3	6.5	5.9	6.1	15.2	9.1	6.5	53.8	57.6	58.2	18.4	17.6	17.6
Mean	14.7	23.8	24.3	6.5	7.0	6.6	15.1	10.6	9.0	70.1	73.0	71.8	24.5	23.0	21.8
Median	19.2	23.9	23.9	6.5	6.4	6.3	11.6	9.1	6.5	53.8	57.6	58.2	25.4	23.1	22.2
<b>Specialties</b>															
Akzo Nobel	31.7	31.6	31.4	3.4	3.4	3.4	3.7	3.7	3.7	29.9	30.8	30.5	5.3	5.1	5.1
Elementis	18.5	18.5	19.0	4.0	4.0	4.0	4.6	6.0	5.8	33.1	33.3	34.0	19.4	16.1	13.5
Ems-Chemie	18.0	17.5	17.5	2.8	2.8	2.8	3.0	3.0	3.5	26.0	24.8	23.8	23.7	23.8	23.8
Fuchs	30.2	30.5	30.4	2.3	2.6	2.9	4.4	4.3	4.1	18.2	20.6	21.8	20.1	19.8	19.6
Johnson Matthey	15.7	16.0	17.0	4.7	4.4	4.1	8.1	7.1	6.6	34.1	33.5	35.0	31.2	25.5	27.0
Lonza	20.0	20.0	20.0	6.9	7.1	7.2	8.3	8.0	7.5	62.9	64.3	62.2	14.2	15.2	15.1
Sika	25.0	25.0	25.0	2.8	3.4	3.3	2.3	2.6	2.6	16.3	16.4	16.7	14.9	14.4	14.0
Umicore	23.0	24.0	25.0	6.4	6.0	6.1	8.8	8.7	8.1	38.5	36.6	33.6	30.7	29.7	30.2
Victrex Plc	19.0	21.0	21.0	6.2	6.1	5.6	13.9	11.8	10.8	103.9	109.5	105.2	19.9	19.3	18.7
Mean	22.3	22.7	22.9	4.4	4.4	4.4	6.4	6.1	5.9	40.3	41.1	40.3	19.9	18.8	18.6
Median	20.0	21.0	21.0	4.0	4.0	4.0	4.6	6.0	5.8	33.1	33.3	33.6	19.9	19.3	18.7
<b>Diversified Specialties</b>															
Arkema	34.2	33.1	33.1	5.9	5.8	5.8	6.1	6.1	5.9	36.1	36.3	38.3	14.4	13.5	13.7
BASF SE	20.0	23.0	24.0	6.6	6.4	6.2	7.0	6.1	5.7	47.0	47.0	45.0	20.6	19.0	19.0
Borealis	27.0	27.0	28.2	5.4	5.4	5.3	7.1	7.0	6.9	51.5	52.6	53.3	12.3	12.7	12.7
Clariant	24.0	24.0	24.0	3.5	3.5	3.5	5.4	5.5	5.5	39.1	42.0	42.6	8.9	10.2	11.3
Covestro	30.3	30.0	30.0	6.0	5.6	5.6	3.5	4.6	4.6	41.5	37.9	35.4	25.2	30.1	32.3
DSM	18.3	20.3	19.8	6.2	6.2	6.1	6.5	6.5	6.5	39.8	37.8	36.6	16.2	15.6	14.4
Evonik	30.0	30.0	30.0	5.7	6.2	6.1	7.4	6.4	6.4	54.5	57.7	56.4	24.6	16.7	16.8
Lanxess	40.0	35.0	35.0	5.9	5.7	5.5	5.9	5.3	4.8	44.4	50.7	54.7	18.3	18.4	18.5
Solvay	32.0	26.6	24.5	6.6	6.5	6.4	7.8	7.3	6.8	56.2	53.2	52.1	9.0	9.6	10.1
Synthomer	17.4	18.0	20.0	2.6	2.6	2.6	3.5	3.6	2.6	24.1	27.4	27.3	5.7	6.0	6.3
Wacker Chemie	37.0	30.0	30.0	13.4	12.9	12.2	8.1	7.7	7.6	85.8	77.6	69.3	15.9	16.5	16.6
Mean	28.2	27.0	27.1	6.2	6.1	5.9	6.2	6.0	5.8	47.3	47.3	46.4	15.6	15.3	15.6
Median	30.0	27.0	28.2	5.9	5.8	5.8	6.5	6.1	5.9	44.4	47.0	45.0	15.9	15.6	14.4
<b>Consumer Facing Chemicals</b>															
Croda	28.8	28.5	29.0	3.7	3.8	4.0	9.7	6.3	5.0	40.4	40.7	41.2	15.6	16.2	16.9
Frutarom	19.0	18.0	18.0	3.6	3.5	3.5	2.8	2.8	2.8	24.7	27.0	26.6	27.3	29.0	29.6
Givaudan	17.0	18.0	18.0	2.7	2.8	2.8	4.0	4.0	4.0	26.8	23.6	23.9	21.3	20.7	20.5
Kerry Group	13.5	13.5	13.5	2.9	2.7	2.8	3.5	4.0	3.0	26.2	28.9	29.2	2.3	1.6	1.0
Symrise	29.0	29.0	29.0	3.1	3.0	3.0	6.4	6.0	5.7	30.6	36.6	35.6	23.4	24.3	23.8
Mean	21.5	21.4	21.5	3.2	3.1	3.2	5.3	4.6	4.1	29.7	31.4	31.3	18.0	18.4	18.4
Median	19.0	18.0	18.0	3.1	3.0	3.0	4.0	4.0	4.0	26.8	28.9	29.2	21.3	20.7	20.5
<b>Industrial Gases</b>															
Air Liquide	27.9	30.4	30.4	8.6	8.6	8.8	12.4	11.0	10.6	99.5	103.1	102.6	4.8	6.3	7.7
Linde	24.5	24.5	24.5	9.3	9.3	9.2	10.2	9.9	10.1	75.0	74.4	72.7	4.9	6.6	6.5
Mean	26.2	27.5	27.5	9.0	9.0	9.0	11.3	10.4	10.4	87.2	88.7	87.7	4.9	6.4	7.1
Median	26.2	27.5	27.5	9.0	9.0	9.0	11.3	10.4	10.4	87.2	88.7	87.7	4.9	6.4	7.1
<b>Chemical Distributors</b>															
Brenntag	34.0	34.0	34.0	1.1	1.1	1.1	1.4	1.3	1.2	9.0	9.1	9.0	9.7	9.9	10.1
Mean	23.6	24.7	24.9	5.3	5.3	5.2	7.6	6.6	6.2	47.4	48.4	47.7	17.7	17.2	17.1
Median	24.0	24.5	24.5	5.7	5.6	5.5	6.4	6.1	5.8	39.1	37.8	36.6	18.3	16.5	16.8

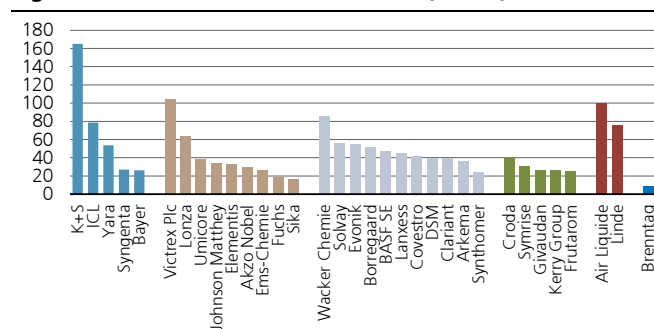
Source: UBS estimates, Note: Data for Johnson Matthey (FY-ending March) and Victrex (FY-ending September) are not calendarised.

Figure 20: Capex as % of Sales (2016e)



Source: UBS estimates

Figure 21: Fixed assets as % of Sales (2016e)



Source: UBS estimates

## European Chemicals – UBS estimates versus consensus

	2016E EBITDA			2016E EBITA			2016E EPS			2016E DPS		
	IBES	UBS	UBS vs. IBES	IBES*	UBS	UBS vs. IBES	IBES	UBS	UBS vs. IBES	IBES	UBS	UBS vs. IBES
<b>Agriculture</b>												
Bayer (€)	10979	11154	2%	7925	7907	0%	7.37	7.34	0%	2.68	2.80	4%
ICL (US\$)	956	915	-4%	501	555	11%	0.32	0.32	0%	0.16	0.16	-1%
Syngenta (US\$)	2642	2503	-5%	2081	1957	-6%	16.57	15.91	-4%	12.14	12.00	-1%
K+S (€)	549	491	-11%	256	203	-21%	0.77	0.53	-32%	0.43	0.37	-15%
Yara (NKR)	15161	14823	-2%	8988	8008	-11%	21.54	23.37	9%	12.43	12.56	1%
<b>Average</b>			<b>-4%</b>			<b>-5%</b>			<b>-5%</b>			<b>-2%</b>
<b>Specialties</b>												
Akzo Nobel (€)	2142	2071	-3%	1545	1583	2%	4.12	3.92	-5%	1.63	1.58	-3%
Elementis (US\$)	127	124	-2%	100	99	-2%	0.17	0.16	-8%	11.40	13.48	18%
Ems-Chemie (CHF)	575	568	-1%	520	512	-1%	17.94	17.27	-4%	15.50	13.50	-13%
Fuchs (€)	401	396	-1%	355	344	-3%	1.80	1.81	0%	0.87	0.87	0%
Johnson Matthey (€)***	656	663	1%	493	504	2%	199.71	204.16	2%	78.40	79.62	2%
Lonza (CHF)	879	890	1%	590	610	3%	8.07	8.20	2%	2.77	2.89	4%
Sika (CHF)	959	950	-1%	787	789	0%	216.48	216.68	0%	89.30	86.00	-4%
Umicore (€)	522	506	-3%	338	333	-1%	2.22	2.23	0%	1.24	1.20	-3%
Victrix (€)	115	112	-2%	99	97	-3%	93.85	91.91	-2%	51.67	46.01	-11%
<b>Average</b>			<b>-1%</b>			<b>-1%</b>			<b>-1%</b>			<b>-1%</b>
<b>Diversified Specialties</b>												
Arkema (€)	1165	1170	0%	706	730	3%	5.27	5.70	8%	2.06	2.10	2%
BASF (€)	10109	10076	0%	6178	6301	2%	4.67	5.07	9%	2.97	3.00	1%
Borregaard (NKR)	981	887	-10%	713	643	-10%	5.16	4.52	-13%	1.72	1.60	-7%
Clariant (CHF)	879	899	2%	630	691	10%	1.17	1.34	14%	0.43	0.44	2%
Covestro (€)	1846	1904	3%	1207	1217	1%	3.46	3.42	-1%	1.13	1.15	1%
DSM (€)	1259	1264	0%	765	765	0%	3.08	2.89	-6%	1.74	1.70	-2%
Evonik (€)	2143	1983	-7%	1434	1268	-12%	1.93	1.62	-16%	1.15	1.15	0%
Lanxess (€)	968	955	-1%	507	502	-1%	2.38	2.34	-2%	0.73	0.70	-4%
Solvay (€)*	2463	2455	0%	1615	1655	2%	8.30	7.62	-8%	3.27	3.30	1%
Wacker Chemie (€)	1036	1068	3%	313	341	9%	2.94	3.57	22%	1.87	1.96	5%
Synthomer (€)	143	140	-2%	116	114	-2%	24.33	22.15	-9%	9.70	10.58	9%
<b>Average</b>			<b>-1%</b>			<b>0%</b>			<b>0%</b>			<b>1%</b>
<b>Consumer Facing Chemicals</b>												
Croda (€)	340	340	0%	294	295	0%	152.41	152.05	0%	81.53	76.48	-6%
Frutarom (US\$)**	211	217	3%	168	176	4%	2.16	2.22	3%	0.38	0.52	39%
Givaudan (CHF)	1150	1216	6%	936	990	6%	77.76	89.29	15%	57.45	56.70	-1%
Kerry Group (€)	880	878	0%	714	703	-2%	3.20	3.22	0%	0.54	0.55	1%
Symrise (€)	620	613	-1%	429	416	-3%	2.30	2.52	10%	0.87	0.85	-3%
<b>Average</b>			<b>2%</b>			<b>1%</b>			<b>6%</b>			<b>6%</b>
<b>Industrial Gases</b>												
Air Liquide (€)	4744	4752	0%	3181	3138	-1%	5.19	5.31	2%	2.57	2.58	0%
Linde (€)	4039	3963	-2%	2167	2356	9%	7.15	7.37	3%	3.62	3.55	-2%
<b>Average</b>			<b>-1%</b>			<b>4%</b>			<b>3%</b>			<b>-1%</b>
<b>Chemical Distributors</b>												
Brenntag (€)	816	838	3%	662	717	8%	2.50	2.57	3%	1.02	0.90	-12%
<b>Average</b>			<b>-1%</b>			<b>0%</b>			<b>0%</b>			<b>0%</b>

Consensus numbers can be EBIT or EBITA; UBS numbers are EBITA only

\* Dividend (pre w/h tax); \*\* Dividend in ILS; \*\*\* JMAT is for 2017

	2017E EBITDA			2017E EBITA			2017E EPS			2017E DPS		
	IBES	UBS	UBS vs. IBES	IBES*	UBS	UBS vs. IBES	IBES	UBS	UBS vs. IBES	IBES	UBS	UBS vs. IBES
<b>Agriculture</b>												
Bayer (€)	11628	12075	4%	8990	8707	-3%	7.98	8.26	3%	2.88	3.10	8%
ICL (US\$)	1112	1077	-3%	701	717	2%	0.35	0.35	-1%	0.16	0.18	8%
Syngenta (US\$)	2919	2845	-3%	2310	2275	-2%	18.88	18.74	-1%	13.01	14.00	8%
K+S (€)	766	652	-15%	400	207	-48%	1.13	0.32	-72%	0.53	0.14	-73%
Yara (NKR)	14586	16758	15%	8013	10403	30%	20.99	28.48	36%	10.76	12.85	19%
<b>Average</b>			<b>0%</b>			<b>-4%</b>			<b>-7%</b>			<b>-6%</b>
<b>Specialties</b>												
Akzo Nobel (€)	2205	2170	-2%	1586	1669	5%	4.21	4.12	-2%	1.71	1.66	-3%
Elementis (US\$)	136	137	0%	111	110	-1%	0.18	0.19	1%	12.04	13.48	12%
Ems-Chemie (CHF)	588	581	-1%	533	522	-2%	18.43	17.76	-4%	16.33	14.00	-14%
Fuchs (€)	420	424	1%	371	362	-2%	1.89	1.89	0%	0.92	0.91	-1%
Johnson Matthey (€)***	697	682	-2%	526	525	0%	215.39	214.66	0%	83.68	83.72	0%
Lonza (CHF)	975	959	-2%	674	657	-3%	9.60	8.88	-8%	3.11	3.13	1%
Sika (CHF)	1035	1059	2%	862	846	-2%	238.39	236.64	-1%	97.00	94.00	-3%
Umicore (€)	579	563	-3%	388	382	-2%	2.58	2.58	0%	1.34	1.26	-6%
Victrix (€)	124	117	-6%	107	101	-6%	100.03	94.00	-6%	93.26	97.05	4%
<b>Average</b>			<b>-1%</b>			<b>-1%</b>			<b>-2%</b>			<b>-1%</b>
<b>Diversified Specialties</b>												
Arkema (€)	1255	1258	0%	779	792	2%	6.07	6.51	7%	2.25	2.35	5%
BASF (€)	10784	11049	2%	6749	7169	6%	5.08	5.72	12%	3.07	3.20	4%
Borregaard (NKR)	1034	836	-19%	754	593	-21%	5.47	4.15	-24%	1.93	1.70	-12%
Clariant (CHF)	929	952	2%	659	734	11%	1.27	1.44	13%	0.46	0.48	3%
Covestro (€)	1875	2051	9%	1189	1373	15%	3.58	4.11	15%	1.26	1.35	7%
DSM (€)	1350	1437	6%	849	914	8%	3.57	3.52	-1%	1.82	1.75	-4%
Evonik (€)	2310	2208	-4%	1557	1363	-13%	2.08	1.75	-16%	1.17	1.18	1%
Lanxess (€)	1098	1185	8%	585	689	18%	2.95	3.74	27%	0.87	1.12	29%
Solvay (€)*	2567	2493	-3%	1625	1671	3%	8.54	8.20	-4%	3.44	3.45	0%
Wacker Chemie (€)	1134	1167	3%	435	447	3%	4.62	5.48	19%	2.24	2.74	23%
Synthomer (€)	153	145	-6%	121	115	-5%	25.51	23.94	-6%	10.30	11.14	8%
<b>Average</b>			<b>0%</b>			<b>2%</b>			<b>4%</b>			<b>6%</b>
<b>Consumer Facing Chemicals</b>												
Croda (€)	370	375	1%	320	324	1%	165.54	169.10	2%	80.59	85.07	6%
Frutarom (US\$)**	245	254	4%	199	210	5%	2.59	2.72	5%	0.45	0.64	42%
Givaudan (CHF)	1196	1272	6%	979	1043	7%	82.99	93.13	12%	61.97	59.54	-4%
Kerry Group (€)	929	907	-2%	761	737	-3%	3.48	3.42	-2%	0.60	0.60	0%
Symrise (€)	666	673	1%	508	478	-6%	2.31	2.82	22%	0.96	0.98	2%
<b>Average</b>			<b>2%</b>			<b>1%</b>			<b>8%</b>			<b>9%</b>
<b>Industrial Gases</b>												
Air Liquide (€)	5398	5456	1%	3653	3634	-1%	5.55	5.49	-1%	2.73	2.63	-4%
Linde (€)	4204	4118	-2%	2281	2477	9%	7.66	7.97	4%	3.87	3.70	-4%
<b>Average</b>			<b>0%</b>			<b>4%</b>			<b>2%</b>			<b>-4%</b>
<b>Chemical Distributors</b>												
Brenntag (€)	861	868	1%	703	745	6%	2.72	2.71	0%	1.10	1.00	-9%
<b>Average</b>			<b>0%</b>			<b>0%</b>			<b>1%</b>			<b>2%</b>

Consensus numbers can be EBIT or EBITA; UBS numbers are EBITA only

\* Dividend (pre w/h tax); \*\* Dividend in ILS; \*\*\* JMAT is for 2018

Source: IBES, UBS

Source: IBES, UBS estimates; Note: Data for Johnson Matthey (FY-ending March) and Victrix (FY-ending September) are not calendarised.



## Sector event calendar

Chr Hansen	AGM	29-Nov-16
Victrex	FY2016 results	6-Dec-16
Sika	Net Sales 2016	10-Jan-17
Novozymes	FY 2016 Financial Result	18-Jan-17
Lonza	FY 2016 Financial Result	25-Jan-17
Givaudan	FY 2016 Financial Result	31-Jan-17
Victrex	AGM	8-Feb-17
Umicore	FY 2016 Financial Result	10-Feb-17
Akzo Nobel	FY 2016 Financial Result	15-Feb-17
DSM	FY 2016 Financial Result	15-Feb-17
Clariant	FY 2016 Financial Result	16-Feb-17
Covestro	FY 2016 Financial Result	20-Feb-17
Bayer	FY 2016 Financial Result	22-Feb-17
Novozymes	AGM	22-Feb-17
BASF	FY 2016 Financial Result	24-Feb-17
Sika	FY 2016 Financial Result	24-Feb-17
Croda	Preliminary Results	28-Feb-17
Evonik	FY 2016 Financial Result	2-Mar-17
Linde	FY 2016 Financial Result	9-Mar-17
K+S	FY 2016 Financial Result	16-Mar-17
Lanxess	FY 2016 Financial Result	16-Mar-17
Clariant	AGM	20-Mar-17
Givaudan	AGM	23-Mar-17
Givaudan	Q1 2017 Financial Result	11-Apr-17
Sika	Q1 Net Sales / AGM	11-Apr-17
Akzo Nobel	Q1 2017 Financial Result	24-Apr-17
Akzo Nobel	AGM	25-Apr-17
Covestro	Q1 2017 Financial Result	25-Apr-17
Lonza	AGM	25-Apr-17
Umicore	Q1 2017 Financial Result	25-Apr-17
Lonza	Q1 2017 Financial Result	26-Apr-17
BASF	Q1 2017 Financial Result	27-Apr-17
Bayer	Q1 2017 Financial Result	27-Apr-17
Bayer	AGM	28-Apr-17
DSM	Q1 2017 Financial Result	2-May-17
Covestro	AGM	3-May-17
DSM	AGM	3-May-17
Evonik	Q1 2017 Financial Result	5-May-17
K+S	Q1 2017 Financial Result	9-May-17
K+S	AGM	10-May-17
Linde	AGM	10-May-17
Lanxess	Q1 2017 Financial Result	11-May-17
BASF	AGM	12-May-17
Evonik	AGM	23-May-17
Lanxess	AGM	26-May-17
Givaudan	H1 2017 Financial Result	17-Jul-17
Akzo Nobel	Q2 2017 Financial Result	25-Jul-17
BASF	H1 2017 Financial Result	27-Jul-17
Lonza	H1 2017 Financial Result	27-Jul-17
Sika	H1 2017 Financial Result	27-Jul-17

Source: Company data



## US Value

Company	Local Currency	Share Price	% of 52 week high	Market Cap	EV/Revenue		EV/EBITDA		EV/ Inv. Cap		P/E		EV FCF Yield		Equity FCF Yield		Dividend Yield		P/Book
					2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e
					(LC)	(%)	(LC)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(x)	(%)	(%)	(%)	(%)
Agriculture																			
Agrium	USD	97.7	97	13,481	1.3	1.2	9.5	8.6	1.7	1.6	17.1	14.9	3.5	5.9	3.2	6.3	3.8	3.8	2.1
CF Industries	USD	28.4	62	6,615	2.7	2.5	10.7	8.7	1.3	1.3	n/a	29.9	10.4	6.8	14.9	7.9	4.2	4.2	1.9
Intrepid Potash	USD	1.4	38	104	1.4	1.3	8.9	7.0	0.4	0.5	n/a	n/a	11.1	4.7	8.1	(3.0)	0.0	0.0	0.3
Monsanto	USD	102.4	91	44,829	3.8	3.6	13.6	12.3	4.5	4.7	21.8	18.3	4.9	5.3	5.2	5.7	2.3	2.5	13.3
Mosaic	USD	27.5	86	9,649	1.8	1.6	10.6	8.8	1.0	1.0	32.2	24.9	4.3	5.0	4.6	5.2	4.0	4.0	1.0
Potash Corp	USD	17.6	87	14,776	5.0	5.0	11.5	11.0	1.4	1.4	27.1	25.2	2.2	3.3	1.6	3.1	2.3	2.3	1.8
				Mean	2.7	2.5	10.8	9.4	1.7	1.7	24.5	22.7	6.1	5.2	6.3	4.2	2.8	2.8	3.4
				Median	2.2	2.0	10.6	8.8	1.3	1.3	24.4	24.9	4.6	5.2	4.9	5.4	3.0	3.2	1.8
Specialties																			
Albemarle	USD	83.9	97	9,516	3.6	3.5	12.9	11.9	1.9	2.6	20.7	16.9	3.9	2.6	3.9	2.6	1.7	1.8	2.8
Ashland	USD	114.8	93	7,116	2.9	2.8	15.1	14.1	1.6	1.9	42.8	32.8	4.3	4.0	3.8	3.4	1.2	1.2	2.4
Axalta Coating	USD	26.4	87	6,394	2.1	1.9	9.2	8.0	2.0	1.9	18.4	15.5	5.4	7.3	5.6	7.8	0.0	0.0	3.7
DuPont	USD	70.3	94	61,839	1.7	1.6	7.6	6.7	2.1	1.3	16.6	13.9	15.6	(6.5)	15.9	(7.7)	2.9	3.1	1.4
Ecolab	USD	116.8	94	34,535	2.9	2.7	13.2	12.0	3.1	3.1	23.6	21.0	3.8	4.2	3.8	4.2	1.4	1.6	4.2
PPG Industries	USD	97.6	84	25,988	2.0	2.0	11.0	10.6	3.6	3.8	15.3	13.7	5.5	5.8	5.9	6.4	1.8	2.0	6.4
W. R. Grace & Co	USD	67.6	67	4,777	3.5	3.2	10.8	9.7	3.0	3.1	19.1	16.5	3.7	3.7	3.4	3.3	1.0	1.0	8.6
				Mean	2.7	2.5	11.4	10.5	2.5	2.5	22.4	18.6	6.1	3.0	6.0	2.9	1.4	1.5	4.2
				Median	2.9	2.7	11.0	10.6	2.1	2.6	19.1	16.5	4.3	4.0	3.9	3.4	1.4	1.6	3.7
Diversified Specialties																			
Celanese Corp.	USD	78.7	100	11,379	2.2	2.1	7.9	7.3	2.4	2.3	10.9	9.8	8.1	9.3	8.3	9.3	1.8	2.0	3.6
Chemours	USD	23.8	100	4,368	1.3	1.2	7.6	6.8	2.3	2.2	13.6	11.9	7.3	6.2	7.9	6.1	0.5	0.6	6.2
Dow Chemical	USD	54.1	95	60,959	2.1	1.9	9.5	7.9	1.5	1.2	16.2	13.5	4.9	7.5	5.7	8.6	3.8	4.1	1.4
Eastman Chemical	USD	76.6	98	11,348	1.9	1.9	8.2	7.5	1.4	1.3	10.4	9.4	4.5	4.9	5.6	6.3	2.7	3.0	2.0
Huntsman	USD	19.4	100	4,651	0.9	0.8	6.6	5.9	1.6	1.5	9.9	8.9	7.8	8.8	11.1	12.6	2.8	3.1	3.3
Kraton Performance	USD	31.3	85	963	1.2	1.1	5.9	5.1	1.2	1.1	9.2	7.0	11.2	12.4	16.1	18.0	0.0	0.0	1.6
Methanex Corp.	USD	39.7	97	3,565	2.1	1.9	10.4	7.8	1.8	1.8	n/a	28.3	7.4	9.9	7.4	10.1	2.8	2.8	2.3
LyondellBasell	USD	86.6	89	35,869	1.5	1.5	6.9	7.4	3.0	2.9	9.3	9.7	7.0	5.5	8.1	6.2	4.4	4.8	5.4
Olin	USD	25.7	98	4,279	1.4	1.2	7.5	6.6	1.3	1.4	22.4	17.7	8.0	9.2	11.3	12.7	3.1	3.1	1.8
Tronox	USD	11.1	100	1,292	2.0	1.9	10.3	9.5	1.2	1.2	n/a	n/a	6.8	8.0	n/a	n/a	1.5	1.5	1.6
Westlake Chemical	USD	55.3	91	7,149	0.9	1.4	4.9	7.1	0.9	1.4	14.7	14.6	6.9	4.2	5.1	4.5	1.3	1.4	1.7
				Mean	1.6	1.5	7.8	7.2	1.7	1.7	12.9	13.1	7.3	7.8	8.7	9.4	2.3	2.4	2.8
				Median	1.5	1.5	7.6	7.3	1.5	1.4	10.9	10.9	7.3	8.0	8.0	9.0	2.7	2.8	2.0
Consumer Facing Chemicals																			
Intl Flavors & Frags	USD	120.3	84	9,619	2.8	2.8	11.8	11.2	3.4	3.5	20.6	19.0	5.1	5.4	4.4	4.9	2.0	2.2	4.8
Sherwin-Williams	USD	272.4	87	25,817	2.1	2.0	12.1	11.4	8.7	9.2	18.8	17.1	5.5	5.8	5.1	5.4	1.1	1.2	13.0
				Mean	2.5	2.4	11.9	11.3	6.1	6.3	19.7	18.0	5.3	5.6	4.8	5.1	1.5	1.7	8.9
				Median	2.5	2.4	11.9	11.3	6.1	6.3	19.7	18.0	5.3	5.6	4.8	5.1	1.5	1.7	8.9
Industrial Gases																			
Air Products	USD	140.8	89	30,824	4.4	3.6	12.3	10.2	3.4	2.9	21.8	18.2	3.1	3.7	3.2	4.1	2.5	2.8	3.1
Praxair	USD	118.7	96	34,212	3.9	3.7	12.1	11.4	2.9	2.8	19.8	18.3	3.2	3.7	3.7	4.2	2.8	3.1	5.4
				Mean	4.1	3.6	12.2	10.8	3.1	2.8	20.8	18.2	3.1	3.7	3.4	4.2	2.7	2.9	4.2
				Median	4.1	3.6	12.2	10.8	3.1	2.8	20.8	18.2	3.1	3.7	3.4	4.2	2.7	2.9	4.2
US Chemical sector																			
				Mean	2.3	2.2	9.8	8.9	2.3	2.3	18.8	17.2	6.4	5.7	6.9	6.0	2.1	2.3	3.9
				Median	2.1	1.9	10.3	8.6	1.8	1.8	18.4	16.5	5.5	5.5	5.6	5.9	2.3	2.3	2.4

Source: UBS estimates, priced as of 25 Nov 2016

## US Absolute

Company	Reporting Currency	Revenue			EBITDA				EBITA			EPS			DPS	
		2016e	2017e	2018e	2015	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2017e	2018e
		(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)	(LC)
Agriculture																
Agrium	USD	13,707	14,211	14,690	2,140	1,609	1,909	2,103	1,086	1,367	1,533	4.80	5.70	6.55	3.72	3.72
CF Industries	USD	3,851	4,654	5,064	1,708	907	1,182	1,422	272	542	771	0.64	0.20	0.95	1.20	1.20
Intrepid Potash	USD	172	150	158	45	(4)	23	29	(46)	(0)	6	(0.76)	(0.19)	(0.08)	0.00	0.00
Monsanto	USD	13,502	14,003	14,855	4,825	3,732	3,915	4,375	3,005	3,145	3,578	4.55	4.70	5.60	2.32	2.56
Mosaic	USD	7,157	7,205	7,353	2,011	1,066	1,195	1,355	354	461	607	0.71	0.85	1.10	1.10	1.10
Potash Corp	USD	3,882	3,766	3,824	2,598	1,420	1,641	1,728	719	895	962	0.52	0.65	0.70	0.40	0.40
Specialties																
Albemarle	USD	2,614	2,776	3,002	960	746	781	881	540	575	664	3.50	4.05	4.95	1.46	1.54
Ashland	USD	4,948	3,068	3,164	1,122	1,079	580	619	742	310	341	6.78	2.68	3.49	1.33	1.33
Axalta Coating	USD	4,079	4,197	4,358	867	906	965	1,050	586	641	726	1.11	1.43	1.70	0.00	0.00
DuPont	USD	24,630	38,548	40,108	5,432	5,294	8,708	9,769	4,025	5,870	6,838	3.25	4.23	5.06	2.05	2.15
Ecolab	USD	13,221	13,861	14,743	2,837	2,850	3,012	3,314	2,045	2,250	2,504	4.40	4.95	5.55	1.61	1.85
PPG Industries	USD	15,112	15,012	15,382	2,672	2,704	2,707	2,831	2,224	2,231	2,355	5.91	6.40	7.10	1.74	1.92
W. R. Grace & Co	USD	1,598	1,675	1,754	743	504	540	585	402	434	478	3.13	3.53	4.10	0.68	0.68
Diversified Specialties																
Celanese Corp.	USD	5,374	5,789	6,001	1,515	1,564	1,612	1,683	1,276	1,320	1,391	6.60	7.25	8.00	1.45	1.60
Chemours	USD	5,281	5,335	5,474	572	755	895	960	471	607	657	1.15	1.75	2.00	0.12	0.13
Dow Chemical	USD	47,570	38,548	40,108	9,596	9,616	8,708	9,769	6,769	5,870	6,838	3.70	3.35	4.00	2.03	2.24
Eastman Chemical	USD	8,939	9,137	9,418	2,288	2,126	2,158	2,335	1,546	1,576	1,753	6.81	7.39	8.14	2.09	2.30
Huntsman	USD	9,569	9,505	9,911	1,221	1,102	1,290	1,380	675	840	930	1.46	1.96	2.17	0.55	0.61
Kraton Performance	USD	1,763	1,934	2,036	166	360	402	432	233	269	294	2.40	3.40	4.45	0.00	0.00
Methanex Corp.	USD	1,931	2,136	2,319	477	257	443	565	5	151	258	(0.50)	0.50	1.40	1.10	1.10
LyondellBasell	USD	29,072	29,255	29,917	8,090	6,718	6,451	6,078	5,670	5,363	4,990	9.50	9.30	8.95	3.78	4.15
Olin	USD	5,574	5,558	5,773	433	824	999	1,078	291	463	529	0.32	1.15	1.45	0.80	0.80
Tronox	USD	2,042	2,249	2,315	326	300	434	461	60	154	177	(1.87)	(0.49)	(0.34)	0.17	0.17
Westlake Chemical	USD	5,090	7,396	7,381	1,206	1,062	1,418	1,454	699	872	878	3.38	3.77	3.77	0.73	0.76
Consumer Facing Chemicals																
Intl Flavors & Frags	USD	3,084	3,180	3,317	699	712	765	827	620	669	728	5.45	5.85	6.35	2.35	2.59
Sherwin-Williams	USD	11,726	12,284	12,867	1,800	1,971	2,180	2,318	1,801	2,013	2,151	12.29	14.51	15.91	2.95	3.24
Industrial Gases																
Air Products	USD	9,524	7,947	8,460	2,974	3,280	2,852	2,954	2,344	1,989	2,081	7.54	6.45	7.75	3.57	3.93
Praxair	USD	10,506	11,129	11,762	3,599	3,407	3,571	3,812	2,335	2,570	2,754	5.47	6.00	6.50	3.30	3.63

Source: UBS estimates

## US Profitability

Company	EBITDA margin		EBITA margin		Gross margin		PAT margin		ROIC (pre-tax)		ROIC (post-tax)		ROE	
	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e	2017e	2018e
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Agriculture</b>														
Agrium	13.4	14.3	9.6	10.4	26.0	26.2	5.5	6.2	12.6	14.0	9.1	10.1	12.3	13.4
CF Industries	25.4	28.1	11.6	15.2	15.0	18.7	1.0	4.2	5.4	8.2	3.9	5.7	1.3	6.1
Intrepid Potash	15.2	18.6	(0.2)	4.1	18.0	20.9	(9.7)	(4.0)	n/a	1.4	n/a	1.4	n/a	n/a
Monsanto	28.0	29.5	22.5	24.1	51.9	53.7	14.3	15.4	26.8	31.5	19.6	23.0	n/a	n/a
Mosaic	16.6	18.4	6.4	8.3	11.2	13.1	4.2	5.3	3.7	4.9	3.2	3.9	3.1	4.0
Potash Corp	43.6	45.2	23.8	25.1	49.3	51.4	14.4	15.2	6.6	6.9	5.3	5.4	6.6	6.9
Mean	23.7	25.7	12.3	14.5	28.6	30.7	5.0	7.0	11.0	11.2	8.2	8.3	5.8	7.6
Median	21.0	23.4	10.6	12.8	22.0	23.6	4.9	5.7	6.6	7.6	5.3	5.6	4.9	6.5
<b>Specialties</b>														
Albemarle	28.1	29.3	20.7	22.1	36.9	38.2	16.0	17.2	10.9	16.5	8.8	13.4	13.0	15.9
Ashland	18.9	19.6	10.1	10.8	30.5	30.5	5.3	6.1	5.7	7.2	5.0	6.3	5.3	6.6
Axalta Coating	23.0	24.1	15.3	16.7	40.9	42.4	8.3	9.5	14.5	16.7	10.7	12.2	22.5	21.5
DuPont	22.6	24.4	15.2	17.0	29.1	29.6	9.9	11.4	18.4	13.8	13.6	10.3	14.5	10.0
Ecolab	21.7	22.5	16.2	17.0	48.2	48.0	10.6	11.1	17.5	19.4	13.0	14.4	19.0	18.7
PPG Industries	18.0	18.4	14.9	15.3	41.6	42.0	10.5	10.9	27.1	29.8	20.4	22.5	36.9	45.0
W. R. Grace & Co	32.2	33.3	25.9	27.3	43.8	44.8	14.1	15.2	22.3	26.0	15.0	17.4	46.8	47.9
Mean	23.5	24.5	16.9	18.0	38.7	39.4	10.7	11.6	16.6	18.5	12.4	13.8	22.6	23.7
Median	22.6	24.1	15.3	17.0	40.9	42.0	10.5	11.1	17.5	16.7	13.0	13.4	19.0	18.7
<b>Diversified Specialties</b>														
Celanese Corp.	27.8	28.0	22.8	23.2	27.6	28.1	17.4	17.7	24.6	25.5	20.4	21.2	35.2	33.4
Chemours	16.8	17.5	11.4	12.0	23.3	24.4	6.0	6.7	20.4	21.9	15.8	16.8	n/a	41.6
Dow Chemical	22.6	24.4	15.2	17.0	29.1	29.7	9.9	11.4	10.6	11.0	7.9	8.2	10.7	9.9
Eastman Chemical	23.6	24.8	17.2	18.6	27.1	28.4	11.5	12.0	12.2	13.1	9.4	9.6	20.4	19.6
Huntsman	13.6	13.9	8.8	9.4	20.5	20.6	4.9	5.1	15.9	17.7	11.6	12.4	37.8	32.0
Kraton Performance	20.8	21.2	13.9	14.4	29.3	29.3	5.4	6.7	13.2	15.4	10.5	12.3	18.6	22.3
Methanex Corp.	20.7	24.4	7.1	11.1	26.7	29.2	2.1	5.4	5.8	10.7	4.6	8.4	2.9	8.2
LyondellBasell	22.1	20.3	18.3	16.7	19.9	18.2	12.5	11.3	35.8	31.7	25.8	22.9	n/a	n/a
Olin	18.0	18.7	8.3	9.2	14.0	14.9	3.4	4.2	8.3	10.1	5.5	6.7	8.1	10.0
Tronox	19.3	19.9	6.8	7.7	14.4	14.7	(2.5)	(1.6)	3.9	4.7	3.9	4.7	n/a	n/a
Westlake Chemical	19.2	19.7	11.8	11.9	18.3	18.4	6.6	6.6	11.6	11.4	8.0	7.8	11.9	10.8
Mean	20.4	21.2	12.9	13.7	22.7	23.3	7.0	7.8	14.8	15.8	11.2	11.9	18.2	20.9
Median	20.7	20.3	11.8	12.0	23.3	24.4	6.0	6.7	12.2	13.1	9.4	9.6	15.2	19.6
<b>Consumer Facing Chemicals</b>														
Intl Flavors & Frags	24.0	24.9	21.0	21.9	45.5	46.4	14.7	15.3	25.5	27.4	19.2	20.6	24.8	23.3
Sherwin-Williams	17.7	18.0	16.4	16.7	50.4	49.7	11.0	11.3	66.6	75.2	49.3	55.7	n/a	n/a
Mean	20.9	21.5	18.7	19.3	47.9	48.1	12.9	13.3	46.1	51.3	34.2	38.1	24.8	23.3
Median	20.9	21.5	18.7	19.3	47.9	48.1	12.9	13.3	46.1	51.3	34.2	38.1	24.8	23.3
<b>Industrial Gases</b>														
Air Products	35.9	34.9	25.0	24.6	31.5	31.1	17.8	19.6	19.4	19.9	14.6	14.9	16.1	14.9
Praxair	32.1	32.4	23.1	23.4	34.6	34.9	15.5	15.7	16.9	17.8	12.2	12.8	28.4	28.0
Mean	34.0	33.7	24.1	24.0	33.0	33.0	16.6	17.7	18.2	18.8	13.4	13.8	22.2	21.5
Median	34.0	33.7	24.1	24.0	33.0	33.0	16.6	17.7	18.2	18.8	13.4	13.8	22.2	21.5
Mean	22.7	23.7	14.8	15.9	30.3	31.1	8.3	9.4	17.4	18.3	13.0	13.6	18.2	19.7
Median	21.7	22.5	15.2	16.7	29.1	29.3	9.9	10.9	15.2	15.4	11.2	12.2	16.1	16.8

Source: UBS estimates

## US Momentum & Debt

Company	Year End	Reporting Currency	Net debt		Revenue growth		EBITDA growth		EBITA growth		EPS growth		Int. cover (EBITA)		ND as % of EV	
			2017e	2018e	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2016-17	2017-18	2017e	2018e	2017e	2018e
			(LC)	(LC)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(x)	(x)	(%)	(%)
<b>Agriculture</b>																
Agrium	Dec	USD	5,069	4,842	3.7	3.4	18.6	10.1	25.9	12.1	18.8	14.8	4.9	5.5	27.8	26.9
CF Industries	Dec	USD	3,208	3,003	20.8	8.8	30.2	20.4	98.9	42.4	(68.1)	364.9	2.1	3.2	25.4	24.2
Intrepid Potash	Dec	USD	99	102	(13.3)	5.7	(692.0)	29.5	(99.5)	(2691.9)	(75.0)	(56.5)	n/a	0.5	48.8	49.5
Monsanto	Aug	USD	8,240	8,889	3.7	6.1	4.9	11.7	4.7	13.7	3.4	19.2	8.1	8.6	15.5	16.5
Mosaic	Dec	USD	2,998	2,315	0.7	2.0	12.0	13.4	30.1	31.6	19.6	29.0	4.2	5.7	23.7	19.4
Potash Corp	Dec	USD	4,152	4,152	(3.0)	1.5	15.5	5.3	24.5	7.4	25.9	7.3	4.1	4.5	21.9	21.9
Mean					2.1	4.6	(101.8)	15.1	14.1	(430.8)	(12.6)	63.1	4.7	4.7	27.2	26.4
Median					2.2	4.5	13.8	12.6	25.2	12.9	11.1	17.0	4.2	5.0	24.6	23.1
<b>Specialties</b>																
Albemarle	Dec	USD	540	1,004	6.2	8.2	4.7	12.8	6.5	15.5	15.5	22.4	9.0	10.4	5.4	9.5
Ashland	Sep	USD	1,689	1,671	(38.0)	3.1	(46.2)	6.7	(58.2)	9.9	(60.4)	30.3	2.4	2.8	19.2	19.1
Axalta Coating	Dec	USD	2,499	2,054	2.9	3.8	6.5	8.8	9.3	13.3	28.6	18.6	4.2	5.2	28.1	24.3
DuPont	Dec	USD	7,118	6,941	56.5	4.0	64.5	12.2	45.8	16.5	30.3	19.5	9.1	10.6	10.8	10.5
Ecolab	Dec	USD	5,152	5,152	4.8	6.4	n/a	10.0	n/a	11.3	12.4	12.1	8.9	9.7	13.0	13.0
PPG Industries	Dec	USD	3,447	3,705	(0.7)	2.5	0.1	4.6	0.4	5.5	8.2	11.0	21.3	22.4	11.5	12.3
W. R. Grace & Co	Dec	USD	1,168	1,018	4.8	4.7	7.1	8.2	7.9	10.2	12.9	16.2	5.5	6.2	20.0	17.9
Mean					5.2	4.7	6.1	9.1	2.0	11.7	6.8	18.6	8.6	9.6	15.4	15.2
Median					4.8	4.0	5.6	8.8	7.2	11.3	12.9	18.6	8.9	9.7	13.0	13.0
<b>Diversified Specialties</b>																
Celanese Corp.	Dec	USD	1,737	1,397	7.7	3.7	3.1	4.4	3.4	5.4	9.7	10.4	12.2	12.9	13.7	11.3
Chemours	Dec	USD	2,580	2,288	1.0	2.6	18.5	7.2	29.0	8.2	51.8	14.5	3.2	3.6	38.0	35.2
Dow Chemical	Dec	USD	14,087	8,379	(19.0)	4.0	(9.4)	12.2	(13.3)	16.5	(9.5)	19.5	9.1	10.6	17.1	10.9
Eastman Chemical	Dec	USD	6,410	6,260	2.2	3.1	1.5	8.2	1.9	11.2	8.4	10.2	7.3	8.2	36.1	35.5
Huntsman	Dec	USD	3,806	3,823	(0.7)	4.3	17.1	7.0	24.4	10.7	34.4	10.6	4.4	5.0	45.0	47.0
Kraton Performance	Dec	USD	1,458	1,272	9.7	5.3	11.7	7.5	15.4	9.2	41.7	30.8	2.0	2.5	61.4	58.1
Methanex Corp.	Dec	USD	1,277	1,143	10.6	8.5	72.7	27.5	3020.1	71.0	(199.4)	183.3	1.9	3.3	27.8	26.0
LyondellBasell	Dec	USD	8,368	8,497	0.6	2.3	(4.0)	(5.8)	(5.4)	(7.0)	(2.1)	(3.8)	18.9	17.0	18.7	18.9
Olin	Dec	USD	3,232	2,819	(0.3)	3.9	21.2	7.9	59.0	14.2	263.4	26.2	2.7	3.2	43.0	39.7
Tronox	Dec	USD	2,813	2,715	10.2	2.9	44.7	6.4	156.8	15.3	(73.6)	(31.8)	0.9	1.0	62.7	61.8
Westlake Chemical	Dec	USD	(268)	3,190	45.3	(0.2)	33.5	2.6	24.8	0.7	11.5	0.0	5.5	5.7	(3.9)	30.8
Mean					6.1	3.7	19.1	7.7	301.5	14.1	12.4	24.5	6.2	6.6	32.7	34.1
Median					2.2	3.7	17.1	7.2	24.4	10.7	9.7	10.6	4.4	5.0	36.1	35.2
<b>Consumer Facing Chemicals</b>																
Intl Flavors & Frags	Dec	USD	(612)	(346)	3.1	4.3	7.4	8.1	8.0	8.7	7.2	8.6	13.4	14.4	(6.8)	(3.7)
Sherwin-Williams	Dec	USD	236	236	4.8	4.7	10.6	6.3	11.8	6.8	18.1	9.6	11.7	12.5	0.9	0.9
Mean					3.9	4.5	9.0	7.2	9.9	7.8	12.7	9.1	12.6	13.5	(3.0)	(1.4)
Median					3.9	4.5	9.0	7.2	9.9	7.8	12.7	9.1	12.6	13.5	(3.0)	(1.4)
<b>Industrial Gases</b>																
Air Products	Sep	USD	4,023	3,969	(16.6)	6.4	(13.0)	3.6	(15.1)	4.6	(14.5)	20.1	24.7	32.1	11.5	13.2
Praxair	Dec	USD	9,126	9,126	5.9	5.7	4.8	6.7	10.1	7.1	9.7	8.3	15.4	16.5	21.1	21.1
Mean					(5.3)	6.1	(4.1)	5.2	(2.5)	5.9	(2.4)	14.2	20.1	24.3	16.3	17.1
Median					(5.3)	6.1	(4.1)	5.2	(2.5)	5.9	(2.4)	14.2	20.1	24.3	16.3	17.1
Mean					4.0	4.2	(13.8)	9.3	131.6	(86.5)	4.2	29.8	8.0	8.6	24.2	24.5
Median					3.1	4.0	9.0	7.9	10.9	10.2	9.7	14.5	5.5	5.7	21.1	21.1

Source: UBS estimates

## US Productivity

Company	Reported tax rate			D&A/Revenue			Capex/Revenue			NTFA/Revenue			NWC/Revenue		
	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e	2016e	2017e	2018e
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Agriculture</b>															
Agrium	20.9	27.5	27.5	3.8	3.8	3.9	5.7	5.6	3.7	48.8	50.6	50.1	14.7	13.1	11.8
CF Industries	13.0	29.0	30.5	16.5	13.8	12.9	57.0	9.7	8.9	239.9	211.5	190.6	n/a	n/a	n/a
Intrepid Potash	0.0	0.0	0.0	24.2	15.4	14.5	11.0	10.0	10.0	236.2	261.5	242.5	51.5	49.1	43.1
Monsanto	24.1	27.0	27.0	5.4	5.5	5.4	6.8	6.8	7.1	37.8	38.0	37.3	13.7	10.0	10.1
Mosaic	2.2	12.0	20.5	9.9	10.2	10.2	11.6	10.2	10.7	125.9	129.1	126.8	10.3	7.7	5.6
Potash Corp	14.7	20.2	22.0	18.1	19.8	20.1	21.2	18.6	18.3	341.0	351.6	344.8	15.5	25.3	33.8
Mean	12.5	19.3	21.3	13.0	11.4	11.1	18.9	10.1	9.8	171.6	173.7	165.4	21.2	21.0	20.9
Median	13.8	23.6	24.5	13.2	12.0	11.5	11.3	9.8	9.4	181.1	170.3	158.7	14.7	13.1	11.8
<b>Specialties</b>															
Albemarle	18.7	19.0	19.0	7.9	7.4	7.2	6.9	9.0	15.0	92.2	64.2	44.8	25.2	23.4	22.5
Ashland	25.4	11.7	12.5	6.8	8.8	8.8	6.0	6.8	6.6	44.5	65.5	55.6	15.9	16.1	10.8
Axalta Coating	24.9	26.0	27.0	7.8	7.7	7.4	3.7	3.6	2.9	34.1	35.1	37.0	16.7	19.5	20.7
DuPont	21.5	26.0	25.5	5.2	7.4	7.3	4.3	6.0	5.2	39.4	36.1	44.2	9.7	9.8	12.9
Ecolab	25.7	25.7	25.9	6.1	5.5	5.5	5.5	6.0	6.0	24.7	24.1	23.2	13.9	14.0	13.9
PPG Industries	24.7	24.6	24.6	3.2	3.2	3.1	3.1	3.1	3.0	17.3	14.8	14.7	8.1	11.8	11.9
W. R. Grace & Co	31.8	33.0	33.0	6.4	6.3	6.1	7.7	11.9	11.4	49.4	46.8	50.1	10.9	6.9	10.6
Mean	24.7	23.7	23.9	6.2	6.6	6.5	5.3	6.6	7.2	43.1	41.0	38.5	14.4	14.5	14.8
Median	24.9	25.7	25.5	6.4	7.4	7.2	5.5	6.0	6.0	39.4	36.1	44.2	13.9	14.0	12.9
<b>Diversified Specialties</b>															
Celanese Corp.	17.0	17.0	17.0	5.4	5.0	4.9	4.5	4.8	4.7	66.7	61.5	59.3	14.6	14.3	14.5
Chemours	20.0	22.8	23.2	5.4	5.4	5.5	6.0	6.9	6.4	56.9	53.9	53.7	8.0	5.3	4.6
Dow Chemical	24.8	26.0	25.5	6.0	7.4	7.3	8.3	6.0	5.2	43.6	54.2	44.3	12.2	17.0	18.1
Eastman Chemical	22.2	23.0	26.5	6.5	6.4	6.2	6.9	6.6	6.4	57.6	56.6	55.1	13.0	17.1	20.8
Huntsman	24.6	27.0	30.0	4.5	4.7	4.5	4.7	4.2	3.6	46.2	45.9	43.3	19.8	20.5	19.8
Kraton Performance	19.7	20.0	20.0	7.2	6.9	6.8	5.7	6.6	4.8	40.0	46.0	42.6	15.9	16.2	15.7
Methanex Corp.	0.0	21.0	22.0	13.0	13.7	13.2	5.7	3.3	3.1	162.6	141.8	122.4	12.4	9.9	9.1
LyondellBasell	26.0	28.0	28.0	3.6	3.7	3.6	6.9	6.8	6.7	33.1	36.7	38.9	16.6	15.8	15.2
Olin	49.4	34.0	34.0	9.6	9.6	9.5	4.7	4.7	3.5	68.1	63.0	55.3	10.7	11.7	13.0
Tronox	0.0	0.0	0.0	11.8	12.4	12.3	6.7	4.6	4.5	90.1	77.7	67.8	31.9	28.6	29.6
Westlake Chemical	30.4	31.1	32.1	7.1	7.4	7.8	12.3	10.0	10.8	93.1	88.8	91.9	16.1	15.3	14.4
Mean	21.3	22.7	23.5	7.3	7.5	7.4	6.6	5.9	5.4	68.9	66.0	61.3	15.6	15.6	15.9
Median	22.2	23.0	25.5	6.5	6.9	6.8	6.0	6.0	4.8	57.6	56.6	55.1	14.6	15.8	15.2
<b>Consumer Facing Chemicals</b>															
Intl Flavors & Frags	23.8	25.0	25.0	3.0	3.0	3.0	3.1	3.2	3.0	24.0	23.6	22.8	22.7	24.0	24.1
Sherwin-Williams	29.5	26.0	26.0	1.4	1.4	1.3	2.0	2.0	2.0	9.1	9.3	9.5	3.5	3.9	4.0
Mean	26.6	25.5	25.5	2.2	2.2	2.1	2.5	2.6	2.5	16.6	16.5	16.1	13.1	13.9	14.0
Median	26.6	25.5	25.5	2.2	2.2	2.1	2.5	2.6	2.5	16.6	16.5	16.1	13.1	13.9	14.0
<b>Industrial Gases</b>															
Air Products	24.7	24.8	25.1	9.8	10.9	10.3	11.1	15.1	15.4	97.0	109.4	103.8	7.3	8.9	5.3
Praxair	27.3	28.0	28.0	10.2	9.0	9.0	13.5	13.0	13.0	108.3	107.7	105.8	7.9	7.4	6.8
Mean	26.0	26.4	26.6	10.0	9.9	9.7	12.3	14.0	14.2	102.7	108.6	104.8	7.6	8.1	6.0
Median	26.0	26.4	26.6	10.0	9.9	9.7	12.3	14.0	14.2	102.7	108.6	104.8	7.6	8.1	6.0
Mean	21.0	22.8	23.6	8.1	7.9	7.8	9.1	7.3	6.9	82.8	83.0	79.0	15.1	15.3	15.4
Median	24.1	25.7	25.5	6.5	7.4	7.3	6.0	6.6	6.0	49.4	54.2	53.7	13.8	14.1	13.4

Source: UBS estimates

## UBS rating and target prices

Company	Local Currency	UBS Rating	Share Price (LC)	Price Target (LC)	Potential Upside / (downside) (%)
<b>Agriculture</b>					
<b>Agrium</b>	USD	Buy	97.7	106.0	8.5
<b>CF Industries</b>	USD	Buy	28.4	28.0	(1.3)
<b>Intrepid Potash</b>	USD	Neutral	1.4	1.2	(16.1)
<b>Monsanto</b>	USD	Buy	102.4	128.0	25.0
<b>Mosaic</b>	USD	Buy	27.5	30.0	9.3
<b>Potash Corp</b>	USD	Buy	17.6	19.0	8.0
<b>Specialties</b>					
<b>Albemarle</b>	USD	Neutral	83.9	85.0	1.3
<b>Ashland</b>	USD	Buy	114.8	125.0	8.9
<b>Axalta Coating</b>	USD	Buy	26.4	32.0	21.2
<b>DuPont</b>	USD	Buy	70.3	80.0	13.8
<b>Ecolab</b>	USD	Buy	116.8	132.0	13.0
<b>PPG Industries</b>	USD	Buy	97.6	115.0	17.8
<b>W. R. Grace &amp; Co</b>	USD	Buy	67.6	83.0	22.8
<b>Diversified Specialties</b>					
<b>Celanese Corp.</b>	USD	Neutral	78.7	71.0	(9.8)
<b>Chemours</b>	USD	Sell	23.8	13.0	(45.4)
<b>Dow Chemical</b>	USD	Buy	54.1	62.0	14.7
<b>Eastman Chemical</b>	USD	Buy	76.6	82.0	7.1
<b>Huntsman</b>	USD	Buy	19.4	19.0	(2.0)
<b>Kraton Performance</b>	USD	Sell	31.3	26.0	(16.9)
<b>Methanex Corp.</b>	USD	Sell	39.7	31.0	(21.9)
<b>LyondellBasell</b>	USD	Neutral	86.6	83.0	(4.2)
<b>Olin</b>	USD	Neutral	25.7	21.0	(18.3)
<b>Tronox</b>	USD	Sell	11.1	6.0	(46.0)
<b>Westlake Chemical</b>	USD	Sell	55.3	41.0	(25.8)
<b>Consumer Facing Chemicals</b>					
<b>Intl Flavors &amp; Frags</b>	USD	Neutral	120.3	129.0	7.2
<b>Sherwin-Williams</b>	USD	Neutral	272.4	297.0	9.0
<b>Industrial Gases</b>					
<b>Air Products</b>	USD	Buy	140.8	157.0	11.5
<b>Praxair</b>	USD	Buy	118.7	133.0	12.0

Source: Share prices as of 25 Nov 2016, UBS estimates

## Valuation Method and Risk Statement

Slow or negative economic growth could slow the emerging cyclical improvement. We expect the leading chemical companies to continue to grow near the market growth rate on a trend-line basis. However, the chemical industry is highly cyclical because of inventory swings and surprise swings in raw materials. Companies continue to create value by beating their cost of capital on average. During trough periods, the leading companies may even lose money. Timing is very important in terms of investing in and trading chemical stocks.

We value BASF using a blend of sum-of-parts and DCF (7.5% WACC, 2.5% terminal growth) methodologies.

Clariant PT based on a blend of DCF (WACC 7.63%, terminal growth 2.5%) and multiple-based valuations.

Sika PT based on a blend of DCF fair value (WACC 6.1%, terminal growth 2.5%) and a target multiple of 12.5x EV/EBITDA 16E. We apply a 5% discount for corporate governance to account for the limited say minority shareholders have with the current share capital.

Ems-Chemie PT based on a blend of DCF (WACC 6.35%, terminal growth 1.4%) and multiple-based valuations.

Solvay PT based on a blend of DCF (WACC 7.8%, terminal growth 2.5%) and multiple-based valuations.

Synthomer PT based on a blend of DCF (WACC 7.6%, terminal growth 2.5%) and multiple-based valuations.

We value Givaudan on a blend of DCF (6.6% WACC, 2.0% terminal growth) and multiples.

We value Lonza on a blend of DCF (7.0% WACC, 2.5% terminal growth) and SOTP.

We base our Covestro valuation on a blend of DCF, where we use a WACC of 7.7% and a terminal growth rate of 3.5% and EV/EBITDA multiples of 8x 2017E EBITDA).

We value Arkema using the average of a three-step DCF with 7.8% WACC and 4.5% long-term growth and a peer-group segment-by-segment sum-of-the-parts valuation.

We value the Lanxess shares on a blend of DCF (8.0% WACC, 2.5% terminal growth) and mid-cycle EV/EBITDA of 7.0x.

Our Croda PT is an average of a SOTP of 3800p/share (Personal Care on 27x PE for 2017E, Life Sciences on 27x, Performance Technologies on 20x) and DCF, which assumes a WACC of 6.8%, long-term sales growth of 3.5% and an EBIT margin of 26% over the long-term.

We value Symrise using an average of 16x 2017E EBITDA and a three-step DCF using a WACC of 6.3% and a long-term EBIT growth of 2.8%.

We value BASF using a blend of sum-of-parts and DCF (7.5% WACC, 2.5% terminal growth) methodologies.

We value Air Liquide using a blend of DCF (7.1% WACC, 3.0% terminal growth) and historic 12-month rolling PE and EV/EBITDA multiples (2017 targets of 17x and 10x respectively).

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report. For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research.

## Required Disclosures

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### UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage <sup>1</sup>	IB Services <sup>2</sup>
<b>Buy</b>	FSR is > 6% above the MRA.	45%	28%
<b>Neutral</b>	FSR is between -6% and 6% of the MRA.	39%	25%
<b>Sell</b>	FSR is > 6% below the MRA.	15%	17%
Short-Term Rating	Definition	Coverage <sup>3</sup>	IB Services <sup>4</sup>
<b>Buy</b>	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
<b>Sell</b>	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 September 2016.

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3:Percentage of companies under coverage globally within the Short-Term rating category.

4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

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Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
<b>Air Liquide</b>	AIRP.PA	Sell	N/A	€94.7425	Nov 2016
<b>Akzo Nobel</b>	AKZO.AS	Neutral	N/A	€59.0425	Nov 2016
<b>Arkema</b> <sup>13</sup>	AKE.PA	Buy	N/A	€88.7825	Nov 2016
<b>BASF SE</b> <sup>5, 7, 14</sup>	BASFn.F	Buy	N/A	€80.4025	Nov 2016
<b>Bayer</b> <sup>4, 7</sup>	BAYGn.F	Neutral	N/A	€89.1025	Nov 2016
<b>Clariant</b> <sup>4, 5, 6a, 6b, 7, 13, 18, 59</sup>	CLN.S	Buy	N/A	CHF16.3225	Nov 2016
<b>Covestro AG</b>	1COV.DE	Buy	N/A	€59.9325	Nov 2016
<b>Croda International</b>	CRDA.L	Buy	N/A	3,284p25	Nov 2016
<b>DSM</b>	DSMN.AS	Neutral	N/A	€58.3225	Nov 2016
<b>Elementis PLC</b> <sup>4, 13, 14</sup>	ELM.L	Buy	N/A	254p25	Nov 2016
<b>Ems-Chemie</b> <sup>5</sup>	EMSN.S	Sell	N/A	CHF510.0025	Nov 2016
<b>Evonik Industries</b>	EVKn.DE	Neutral	N/A	€26.1325	Nov 2016
<b>Frutarom</b>	FRUT.TA	Buy	N/A	NIS207.2027	Nov 2016
<b>Givaudan</b> <sup>2, 4, 5, 6a, 6b, 7, 13</sup>	GIVN.S	Neutral	N/A	CHF1,830.0025	Nov 2016
<b>Israel Chemicals Limited</b> <sup>5, 16</sup>	ICL.TA	Neutral	N/A	NIS14.3327	Nov 2016
<b>Johnson Matthey</b> <sup>7</sup>	JMAT.L	Neutral	N/A	3,160p25	Nov 2016
<b>K+S</b>	SDFGn.DE	Sell	N/A	€19.1525	Nov 2016
<b>Lanxess AG</b> <sup>13</sup>	LXSG.DE	Buy	N/A	€58.0025	Nov 2016
<b>Linde</b>	LING.DE	Neutral	N/A	€152.3025	Nov 2016
<b>Lonza Group AG</b> <sup>5, 6a, 6b, 7</sup>	LONN.S	Neutral	N/A	CHF180.5025	Nov 2016
<b>Mosaic Co</b> <sup>5, 16</sup>	MOS.N	Buy	N/A	US\$27.4325	Nov 2016
<b>Potash Corporation of Saskatchewan Inc.</b> <sup>6b, 7, 16</sup>	POT.N	Buy	N/A	US\$17.6725	Nov 2016
<b>Sika</b> <sup>5, 6a, 6b, 7</sup>	SIK.S	Buy	N/A	CHF4,925.0025	Nov 2016
<b>Solvay</b>	SOLB.BR	Sell	N/A	€106.5525	Nov 2016
<b>Symrise</b>	SY1G.DE	Buy	N/A	€57.3525	Nov 2016
<b>Syngenta</b> <sup>3, 4, 5, 6a, 6b, 7, 13</sup>	SYNN.S	Neutral	N/A	CHF392.8025	Nov 2016
<b>Synthomer PLC</b>	SYNTS.L	Sell	N/A	358p25	Nov 2016
<b>Umicore</b>	UMI.BR	Buy	N/A	€55.8825	Nov 2016
<b>Victrex Plc</b>	VCTX.L	Neutral	N/A	1,735p25	Nov 2016
<b>Wacker Chemie</b> <sup>5</sup>	WCHG.DE	Buy	N/A	€83.1925	Nov 2016
<b>Yara</b>	YAR.OL	Neutral	N/A	NKR319.1025	Nov 2016

Source: UBS. All prices as of local market close.

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