



TOP 50 U.S. CHEMICAL PRODUCERS

Sales and profits **CLIMB ONCE AGAIN** but capitalization wanes

ALEXANDER H. TULLO, C&EN NORTHEAST NEWS BUREAU

C&EN'S LATEST SURVEY of the Top 50 U.S. chemical companies illustrates two seemingly contradictory trends. Companies' sales and profits climbed robustly last year, and chemical deal-making was strong. Both are signs of a strong industry. On the other hand, chemical stocks mostly slumped, a harbinger of weakness.

This is no paradox. A lot can happen in a year. And 2011, the year that provided the financial results for the ranking, saw its share of ups and downs. The economic recovery was strong until late last summer, when the business world started worrying about European sovereign debt. The strong business environment early on was enough to lift results for the year. But investors ended 2011 with weakened confidence, to the detriment of stock prices.

The 50 firms in the ranking posted a combined \$333.6 billion in 2011 chemical sales, an increase of 16.4% versus 2010. The total exceeds the previous record of \$319.6 billion reached by C&EN's survey group in 2008. A full 40 companies on the list reported double-digit gains in sales.

Of the 50 firms, only one, Sunoco, posted a sales decline. The company, which

has been gradually exiting the chemical industry, sold its polypropylene business to Brazil's Braskem in 2010. In 2011, it sold a phenol plant in Philadelphia to Honeywell, whose nylon business made it a longtime customer of the plant. Later in the year, Sunoco sold a phenol plant in Haverhill, Ohio, to Goradia Capital.

Profitability was remarkably strong during 2011. The 42 firms that provided earnings figures posted a combined \$39.6 billion in operating profits. This represents a 27.0% increase over 2010, a year that itself was a record for the Top 50 U.S. chemical makers in terms of profitability.

Of the 42 companies, only eight posted a decline in profits. Not a single firm posted a loss for the year.

A couple of sectors stand out in terms of profitability. Fertilizer producers Mosaic and CF Industries both racked up triple-digit gains, demonstrating how high prices for agricultural goods can produce a windfall. Similarly Monsanto, which in 2010 posted a loss because of competition from generic versions of its glyphosate herbicide, Roundup, saw its fortunes reverse in 2011. The company's crop protection

BULLISH Dow CEO Liveris announces a new ethylene cracker investment in Freeport, Texas, on April 19.

chemical business earned \$281 million.

Makers of the pigment titanium dioxide, which has been in relatively short supply, also posted impressive gains. Kronos World-

wide posted a 209.9% increase in earnings to \$553 million, and Tronox' profits climbed 89.2% to \$307 million. This is another sharp reversal: Tronox just emerged from bankruptcy in early 2011.

In contrast to sales and earnings gains, chemical stock prices posted declines for the year. The 35 publicly traded chemical firms in the Top 50 had a combined market capitalization of \$237.2 billion at the end of 2011, a drop of nearly 10% compared with the end of 2010. Twenty-four of the firms saw share prices fall over the course of 2011.

The biggest loser was Ferro, which took a tumble when its second quarter earnings missed analysts' estimates. The company lost two-thirds of its market value in 2011. Four firms—Mosaic, Huntsman Corp., OM Group, and Omnova—lost at least a third of their value.

A few of the chemical companies were big gainers though. The biggest was NewMarket, which saw its stock value rise in excess of 50%. The other double-digit gainers are Ashland, W.R. Grace, H.B. Fuller, Innophos, and Innospec.

FOR THE YEAR AHEAD, Dow Chemical Chief Executive Officer Andrew N. Liveris believes that the U.S. economy will see a continual strengthening, while the European results of chemical firms will remain weak.

"In the U.S., we see improving consumer confidence coupled with cautious optimism on housing starts and remodeling investments," he told analysts at his year-end earnings conference call. "Add to that tailwinds in the industrial sector driven by the country's abundant access to low-cost natural gas, which enables low-cost exports, and it is easy to see why we anticipate improvements across a variety of sectors in this country."

The only bright spot in Europe, Liveris noted, has been Germany. "However, the rest of the region continues to struggle with structural competitive issues and debt constraints," he said.

Liveris' company once again headed C&EN's ranking. In fact, each of the 10

& MORE ONLINE

Read about C&EN's methodology for ranking the Top 50 chemical companies at <http://cenm.ag/top50>.

TOP 50 U.S. CHEMICAL FIRMS

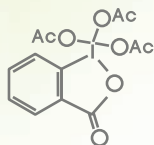
Most firms experienced strong increases in sales and profits in 2011

RANK		COMPANY	CHEMICAL SALES	CHANGE	CHEMICAL SALES AS	HEADQUARTERS	CHEMICAL OPERATING PROFITS ^a	CHANGE	CHEMICAL OPERATING PROFITS AS	OPERATING PROFIT	IDENTIFIABLE ASSETS	CHEMICAL ASSETS AS % OF TOTAL ASSETS	OPERATING RETURN ON CHEMICAL ASSETS ^c
2011	2010		(\$ MILLIONS)	FROM 2010	% OF TOTAL SALES		(\$ MILLIONS)	FROM 2010	% OF TOTAL OPERATING PROFIT	MARGIN ^b	(\$ MILLIONS)	% OF TOTAL ASSETS	% OF TOTAL ASSETS
1	1	Dow Chemical	\$59,985	11.8%	100.0%	Midland, Mich.	\$4,522	24.7%	100.0%	7.5%	\$69,224	100.0%	6.5%
2	2	ExxonMobil ^d	41,942	18.1	9.0	Irving, Texas	4,383	-10.8	10.7	10.5	27,107	8.2	16.2
3	3	DuPont ^e	34,763	15.6	91.6	Wilmington, Del.	5,547	22.8	98.8	16.0	18,819	67.9	29.5
4	5	Chevron Phillips	13,935	24.4	100.0	The Woodlands, Texas	na	na	na	na	8,634	100.0	na
5	4	PPG Industries	13,824	11.1	92.9	Pittsburgh	1,930	17.1	95.2	14.0	10,557	73.4	18.3
6	6	Praxair ^e	11,252	11.2	100.0	Danbury, Conn.	3,465	12.2	100.0	30.8	16,356	100.0	21.2
7	7	Huntsman Corp.	11,221	21.3	100.0	Salt Lake City	753	67.7	100.0	6.7	8,657	100.0	8.7
8	10	Mosaic ^f	9,938	47.0	100.0	Plymouth, Minn.	2,749	106.2	100.0	27.7	15,787	100.0	17.4
9	8	Air Products ^g	9,681	13.2	96.0	Allentown, Pa.	1,624	13.9	96.3	16.8	13,035	97.3	12.5
10	9	Momentive	7,844	5.9	100.0	Columbus, Ohio	771	-12.6	100.0	9.8	6,273	100.0	12.3
11	13	Eastman Chemical	7,178	22.9	100.0	Kingsport, Tenn	1,013	13.7	100.0	14.1	6,184	100.0	16.4
12	12	Celanese	6,763	14.3	100.0	Dallas	802	32.6	100.0	11.9	8,518	100.0	9.4
13	11	Dow Corning	6,427	7.2	100.0	Midland, Mich.	na	na	na	na	13,571	100.0	na
14	14	Lubrizol	6,100	12.6	100.0	Wickliffe, Ohio	na	na	na	na	na	na	na
15	20	CF Industries	6,098	53.8	100.0	Long Grove, Ill.	2,766	157.6	100.0	45.4	8,975	100.0	30.8
16	15	Styron	6,000	17.7	100.0	Berwyn, Pa.	na	na	na	na	na	na	na
17	16	Honeywell ^e	5,659	19.7	15.5	Morristown, N.J.	1,042	39.1	19.5	18.4	5,402	13.6	19.3
18	18	Occidental Petroleum	4,815	19.9	20.1	Los Angeles	861	96.6	7.9	17.9	3,754	6.3	22.9
19	17	Ecolab	4,649	9.4	41.2	St. Paul	na	na	na	na	na	na	na
20	19	Ashland ^h	4,531	13.7	69.7	Covington, Ky.	301	19.4	58.6	6.6	9,792	75.5	3.1
21	21	Westlake Chemical	3,620	14.1	100.0	Houston	447	18.1	100.0	12.3	3,267	100.0	13.7
22	22	FMC Corp.	3,378	8.4	100.0	Philadelphia	620	15.0	100.0	18.3	3,744	100.0	16.6
23	25	Monsanto ^h	3,240	12.1	27.4	St. Louis	281	nm	11.8	8.7	4,493	22.6	6.3
24	28	W.R. Grace	3,212	20.1	100.0	Columbia, Md.	525	40.4	100.0	16.3	4,497	100.0	11.7
25	24	Cabot Corp. ^g	3,102	7.2	100.0	Boston	243	-2.0	100.0	7.8	3,141	100.0	7.7
26	27	Cytec Industries	3,073	11.8	100.0	Woodland Park, N.J.	308	13.6	100.0	10.0	3,537	100.0	8.7
27	29	Rockwood Specialties	3,053	15.3	83.2	Princeton, N.J.	451	90.5	81.5	14.8	3,910	85.2	11.5
28	26	Chemtura	3,025	9.6	100.0	Philadelphia	347	15.7	100.0	11.5	2,855	100.0	12.2
29	30	Albemarle	2,869	21.4	100.0	Richmond, Va.	588	39.4	100.0	20.5	3,204	100.0	18.3
30	35	TPC Group	2,759	43.8	100.0	Houston	128	24.1	100.0	4.7	970	100.0	13.2
31	31	Georgia Gulf	2,575	13.4	79.9	Atlanta	154	11.7	95.3	6.0	996	60.6	15.4
32	32	Ferro Corp. ^e	2,156	2.6	100.0	Mayfield Heights, Ohio	118	-28.2	100.0	5.5	1,441	100.0	8.2
33	34	NewMarket	2,138	19.7	100.0	Richmond, Va.	302	5.1	100.0	14.1	1,192	100.0	25.3
34	33	Solutia	2,097	7.5	100.0	St. Louis	360	9.4	100.0	17.2	3,526	100.0	10.2
35	37	Kronos Worldwide	1,943	34.0	100.0	Dallas	553	209.9	100.0	28.5	1,824	100.0	30.3
36	38	Stepan	1,843	28.8	100.0	Northfield, Ill.	119	9.8	100.0	6.4	901	100.0	13.2
37	50	Tronox	1,651	35.7	100.0	Oklahoma City	307	89.2	100.0	18.6	1,657	100.0	18.5
38	43	Goodyear	1,594	41.0	7.0	Akron, Ohio	na	na	na	na	na	na	na
39	41	H.B. Fuller ⁱ	1,558	14.9	100.0	St. Paul	129	23.7	100.0	8.3	1,228	100.0	10.5
40	40	Sigma-Aldrich	1,503	10.3	60.0	St. Louis	na	na	na	na	na	na	na
41	42	Kraton Polymers	1,438	17.0	100.0	Houston	187	1.1	100.0	13.0	1,154	100.0	16.2
42	46	Olin	1,389	34.0	70.8	Clayton, Mo.	245	109.0	64.6	17.6	1,652	67.5	14.8
43	47	Reichhold	1,183	14.6	100.0	Research Triangle Park, N.C.	na	na	na	na	na	na	na
44	45	OM Group	1,111	2.5	73.4	Cleveland	143	-7.6	161.9	12.9	1,344	46.8	10.7
45	44	Sunoco	1,095	-21.9	2.3	Philadelphia	1	-98.2	0.8	0.1	na	na	na
46	48	Koppers	1,016	27.7	66.0	Pittsburgh	45	-41.5	56.6	4.5	495	67.8	9.2
47	—	Omnova ^j	952	80.3	79.3	Fairlawn, Ohio	87	18.0	101.5	9.1	564	65.1	15.4
48	49	Innophos	811	13.5	100.0	Cranbury, N.J.	137	43.6	100.0	16.9	687	100.0	19.9
48	—	MeadWestvaco	811	19.4	13.4	Richmond, Va.	203	44.0	24.2	25.0	460	5.2	44.1
50	—	Innospec	774	13.3	100.0	Littleton, Colo.	52	-37.1	100.0	6.7	569	100.0	9.2

^a Operating profit is sales less administrative expenses and cost of sales. ^b Operating profit as a percentage of sales. ^c Chemical operating profit as a percentage of identifiable assets. ^d Profits and profitability ratios are after tax. ^e Sales include a significant amount of nonchemical products. ^f Fiscal year ended May 31. ^g Fiscal year ended Sept. 30. ^h Fiscal year ended Aug. 31. ⁱ Fiscal year ended Dec. 3. ^j Fiscal year ended Nov. 30. **na** = not available. **nm** = not meaningful.

ORGANIC SPECIALITIES

Dess Martin Periodinane



(Triacetoxyperiodinane, 1,1,1-tris (acetyloxy)-1,1-dihydro-1,2-benziodoxol-3-(1H)-one)

Mild reagent for the oxidation of primary & secondary alcohols to aldehydes and ketones. Facilitates high yield preparation of multi-functional, complex stereochemical molecules. It is possible to scale-up the oxidation process to an industrial scale. Due to its highly selective properties, a wide range of useful applications are possible. In some specific cases, it is the only agent capable of the desired oxidation.

-Available from 10g to 10kg-

We solicit your proposal for Custom Synthesis & Toll Manufacturing

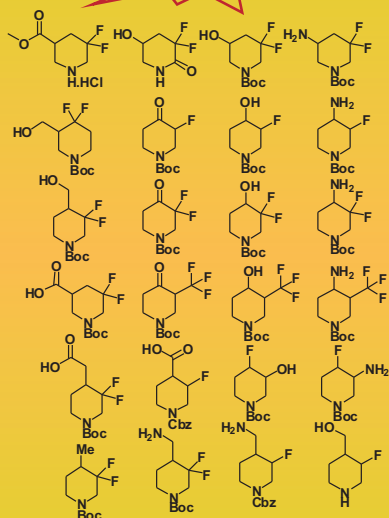


ORGANO FINE CHEMICALS
Your reliable partner in Fine Chemicals

207, Anand Bhuvan, Princess Street, Mumbai - 400 002, INDIA
Tel.: 2201 69 68 / 2206 75 21 Fax: 2205 92 99 / 2208 31 84
Email: organo@hathway.com, Website: www.organo.in

AQbiopharma **AQPharma**

All in Stock



AQFluoroPharma Co., Ltd
www.aqbiopharma.com.cn
sales@aqbiopharma.com.cn
FAX: +86-21-51079710

BIG SURGE

Most foreign-owned chemical firms saw a healthy rise in sales

RANK		COMPANY	U.S. CHEMICAL SALES (\$ MILLIONS)	CHANGE FROM 2010	U.S. CHEMICAL SALES AS % OF TOTAL U.S. SALES	COUNTRY
2011	2010		2011	2010	2011	
1	1	BASF	\$20,517	11.2%	100.0%	Germany
2	2	LyondellBasell Industries	12,589	18.2	56.1	Netherlands
3	3	Agrium ^a	9,550	19.5	100.0	Canada
4	4	Total	6,241	6.7	28.1	France
5	5	Bayer	5,311	7.2	46.6	Germany
6	6	AkzoNobel	4,618	7.8	100.0	Netherlands
7	7	Air Liquide	3,983	4.0	100.0	France
8	8	Evonik Industries	3,853	9.7	100.0	Germany
9	17	Alfa Group	3,225	99.0	61.1	Mexico
10	15	Braskem	3,009	54.7	100.0	Brazil
11	10	Arkema	2,712	13.7	100.0	France
12	14	PotashCorp	2,576	24.2	90.8	Canada
13	11	Nova Chemicals	2,529	19.9	100.0	Canada
14	9	Syngenta	2,406	10.1	65.6	Netherlands
15	12	Linde	2,320	1.8	84.1	Germany
16	21	Yara	2,114	34.4	100.0	Norway
17	18	DSM	2,097	36.3	100.0	Netherlands
18	—	Indorama	2,031	204.3	100.0	Thailand
18	19	LANXESS	2,031	24.2	100.0	Germany
20	13	Shin-Etsu Chemical ^b	1,920	na	100.0	Japan
21	16	Sasol ^c	1,821	12.9	100.0	South Africa
22	23	Solvay	1,622	31.1	100.0	Belgium
23	25	Lonza	1,288	12.0	89.8	Switzerland
24	20	DIC ^b	1,172	na	100.0	Japan
25	24	Wacker Chemie	1,091	0.5	100.0	Germany

NOTE: Figures from companies that report in native currencies were converted to dollars at average annual exchange rates from the Federal Reserve. **a** Sales include a significant amount of nonchemical products. **b** Fiscal year ended March 31. **c** Fiscal year ended June 30. **na** = not available.

companies leading the list this year was among the top 10 last year as well, although there was some jostling among the firms. Chevron Phillips Chemical, fourth this year, switched places with number five PPG Industries. Mosaic, Air Products & Chemicals, and Momentive played musical chairs for the number eight through 10 spots.

MERGERS AND ACQUISITIONS always leave a mark on the Top 50, but this year the impact of deals is outsized. Four firms disappeared because they were acquired. Water treatment chemical company Nalco, number 17 last year, was purchased by institutional cleaning firm Ecolab in December. Three Ecolab operating segments—water, paper, and energy services—are remnants of the old Nalco. Ecolab joins the list at num-

ber 19 with \$4.6 billion in chemical sales.

Ineos Nova, a styrenic polymers joint venture between Ineos and Nova Chemicals, disappeared. It was taken over by Ineos and then subsequently folded into a new European joint venture with BASF called Styrolution.

In a bid to grow its specialties business, Ashland purchased International Specialty Products, number 36 in last year's survey, in August. Despite the acquisition, Ashland's ranking dropped from 19 to 20. Biocide maker Arch Chemicals, number 39 on last year's list, disappeared after being purchased by Swiss fine chemicals maker Lonza.

Three other new firms join the group this year: specialty chemical maker Omnova, paper giant MeadWestvaco, and fuel additives specialist Innospec.

"It is easy to see why we anticipate improvements across a variety of sectors in this country."

MARKET CAPITALIZATION

DuPont tops the survey for the second straight year

RANK		COMPANY	MARKET CAP. (\$ MILLIONS) 2011	CHANGE FROM 2010
2011	2010			
1	1	DuPont	\$42,397	-7.3%
2	2	Dow Chemical	34,069	-14.4
3	4	Praxair	31,910	9.9
4	3	Mosaic	21,453	-37.0
5	5	Air Products	17,941	-8.2
6	6	PPG Industries	12,682	-6.0
7	7	CF Industries	9,482	-1.6
8	8	Sigma-Aldrich	7,558	-6.9
9	10	Celanese	6,928	8.0
10	12	FMC Corp.	6,006	5.1
11	11	Eastman Chemical	5,347	-10.0
12	13	Albemarle	4,574	-10.5
13	—	Ashland	4,476	11.4
14	20	W.R. Grace	3,393	32.1
15	16	Rockwood Specialties	3,028	2.0
16	17	Westlake Chemical	2,676	-7.2
17	23	NewMarket Corp.	2,655	53.7
18	15	Huntsman Corp.	2,358	-36.2
19	18	Solutia	2,110	-25.0
20	22	Kronos Worldwide	2,091	-15.1
21	19	Cytec Industries	2,032	-22.5
22	21	Cabot Corp.	2,025	-17.8
23	24	Olin	1,574	-3.6
24	27	H.B. Fuller	1,144	13.3
25	—	Chemtura	1,092	-28.5
26	31	Innophos	1,049	35.2
27	32	Stepan	818	6.1
28	26	OM Group	714	-39.2
29	33	Koppers	708	-4.0
30	30	Georgia Gulf	667	-18.5
31	28	Kraton Polymers	652	-32.9
32	—	Innospec	646	33.5
33	25	Ferro Corp.	424	-66.4
34	—	TPC Group	364	-25.9
35	—	Omnova	211	-44.0

NOTE: Based on share prices on Dec. 31, 2010, and Dec. 30, 2011. These 35 companies are firms on the Top 50 list that generate more than half of their revenues through chemical manufacturing.

Transactions also left a mark on C&EN's ranking of the U.S. sales of foreign chemical producers. The Arch purchase helped lift Lonza from number 25 to number 23. Rhodia, number 22 in last year's ranking, was purchased by Solvay, which is number 22 on the list this year.

Several firms grew fat by purchasing U.S. chemical businesses. Thai polyethylene terephthalate (PET) resin maker Indorama Ventures bought Invista's PET business last March. The acquisition helped the company debut at number 18 with \$2.0 billion in sales. Indorama hasn't stopped making acquisitions. Earlier this year, it acquired an ethylene glycol plant in Clear Lake, Texas, from Old World Industries.

Mexico's Alfa Group propelled itself from number 17 to number nine through acquisitions. The company's DAK Americas PET unit purchased the remnants of Eastman Chemical's PET business in February 2011 and bought out Wellman in September. Similarly, the purchase of Sunoco's polypropylene business raised Braskem's ranking from 15 to 10.

This year has yet to bring many acquisitions of the size to make

a mark on the 2013 ranking. Eastman Chemical, number 11, has a pending acquisition of number 34 Solutia. Westlake Chemical, number 21, made a hostile bid for number 31 Georgia Gulf in January. However Westlake dropped the bid last week (see page 20). DuPont's coatings business is rumored to be on the auction block, but signs of a deal have yet to emerge.

AFTER DECLINING significantly in the second half of 2011, the pace of deal-making so far this year has gradually increased, notes Christopher D. Cerimele, director of the chemicals practice at the investment banking firm Houlihan Lokey. "Most people going into the year were thinking that this would be a little bit more of an active market than it has been," he says. But the first half of the year has been stronger than the second half of 2011, Cerimele observes. On the basis of discussions in the mergers and acquisitions market, he believes the remainder of 2012 will be stronger still.

Chemical companies conduct far more midsized and smaller deals than blockbuster deals, Cerimele says. And such transactions—such as Arsenal Capital Partners' purchase of Evonik Industries' colorants business or BASF's purchase of Arsenal's Novolyte Technologies unit—have been keeping a robust pace. "The big transformational deals, like Eastman/Solutia, just don't come along as often," he notes. Last year saw an unusual number of such deals, Cerimele says; thus far, 2012 seems calmer.

And the second half of the year awaits. However, it is unlikely that any deals will be struck in time to have much of an impact on next year's Top 50 ranking. ■

Precision Flow Cell
MANUFACTURING

631-249-7474 • info@nsgpci.com

nsg
Made In Japan
www.precisioncells.com