



ANNUAL SURVEY

CHEMICAL PRODUCERS

Poor economy, high raw material costs, and new number one U.S. company left their marks on the Top 75 this year

ALEXANDER H. TULLO, C&EN NORTHEAST NEWS BUREAU

IT'S OFFICIAL: DOW CHEMICAL IS THE LARGEST CHEMICAL company in the U.S.

Many readers have been suspecting this since Feb. 6, 2001, when Dow completed its acquisition of Union Carbide, but because last year's Top 75 survey was based on 2000 earnings, Dow came in second, behind DuPont.

If this seems odd, note that Enron placed fifth on this year's

Fortune 500 list. Sometimes the methodology of company surveys like the Top 75 or the Fortune 500—use of revenues from the year before, in C&EN's case—doesn't capture more recent changes.

The long-anticipated change at the top of C&EN's list comes with the disappearance of one of its fixtures, Union Carbide, which has been in C&EN's U.S. chemical company rankings since the first survey of the Top 50 in 1969. At that time, ironically, Carbide's \$1.7 billion in sales for 1968 put it just ahead of Dow for the number three

BAD YEAR ALL AROUND

Domestic economic downturn made sales slip for most companies in 2001

RANK 2001	RANK 2000	COMPANY	CHEMICAL SALES (\$ MILLIONS) 2001	CHANGE FROM 2000	CHEMICAL SALES AS % OF TOTAL SALES	INDUSTRY CLASSIFICATION	CHEMICAL OPERATING PROFITS ^a (\$ MILLIONS)	CHANGE FROM 2000	CHEMICAL OPERATING PROFITS AS % OF TOTAL OPERATING PROFIT	OPERATING PROFIT MARGIN ^b	IDENTIFIABLE CHEMICAL ASSETS (\$ MILLIONS)	CHEMICAL ASSETS AS % OF TOTAL ASSETS	OPERATING RETURN ON CHEMICAL ASSETS ^c
1	2	Dow Chemical	\$27,805.0	20.9%	100.0%	Diversified	\$1,247.0	-45.0%	100.0%	4.5%	\$35,515.0	100.0%	3.5%
2	1	DuPont ^d	26,787.0	-5.7	96.7	Diversified	na	na	na	na	25,566.0	99.6	na
3	3	ExxonMobil ^e	15,943.0	-8.9	7.5	Petroleum	882.0	-24.0	5.8	5.5	17,019.0	11.9	5.2
4	4	Huntsman Corp.	8,500.0	6.3	100.0	Basic chemicals	na	na	na	na	na	na	na
5	5	General Electric ^d	7,069.0	-9.1	5.6	Diversified	1,596.0	-17.0	10.3	22.6	10,154.0	2.1	15.7
6	6	BASF ^d	6,851.9	-9.1	100.0	Diversified	na	na	na	na	na	na	na
7	7	Chevron Phillips	6,010.0	-21.3	100.0	Basic chemicals	-431.0	nm	100.0	def	5,860.0	100.0	def
8	10	PPG Industries	5,933.0	-5.5	72.6	Diversified	586.0	-31.8	71.5	9.9	5,265.0	62.3	11.1
9	8	Equistar Chemicals	5,909.0	-21.2	100.0	Basic chemicals	-44.0	nm	100.0	def	6,308.0	100.0	def
10	11	Shell Oil	5,524.0	-11.8	20.5	Petroleum	na	na	na	na	na	na	na
11	14	Air Products ^f	5,466.8	4.4	95.6	Industrial gases	864.9	-3.5	100.5	15.8	7,768.8	96.1	11.1
12	13	Eastman Chemical	5,384.0	1.7	100.0	Diversified	-126.0	nm	100.0	def	6,086.0	100.0	def
13	15	BP	5,300.0	3.9	6.3	Petroleum	62.0	-89.3	0.9	1.2	na	na	na
14	16	Praxair	5,158.0	2.3	100.0	Industrial gases	1,333.0	9.3	100.0	25.8	7,715.0	100.0	17.3
15	12	Rohm and Haas	4,917.0	-18.1	86.8	Specialty chemicals	na	na	na	na	8,394.0	81.1	na
16	17	Atofina	4,380.0	-13.1	100.0	Diversified	na	na	na	na	na	na	na
17	21	Monsanto	3,755.0	-3.3	68.7	Agrochemicals	775.0	-29.5	144.6	20.6	5,923.0	51.8	13.1
18	18	Honeywell	3,313.0	-18.3	14.0	Diversified	52.0	-84.4	1.9	1.6	4,053.0	16.7	1.3
19	19	Lyondell Chemical	3,226.0	-20.1	100.0	Basic chemicals	274.0	-37.7	100.0	8.5	6,181.0	92.2	4.4
20	20	Nova Chemicals	3,194.0	-18.4	100.0	Basic chemicals	62.0	-91.4	100.0	1.9	4,359.0	100.0	1.4
21	22	Occidental Petroleum	3,092.0	-18.5	22.1	Petroleum	-437.0	nm	def	def	3,411.0	19.1	def
22	27	Degussa	3,007.9	3.9	100.0	Specialty chemicals	na	na	na	na	na	na	na
23	23	ICI	2,962.7	2.3	100.0	Specialty chemicals	na	na	na	na	1,723.2	100.0	na
24	25	Solutia	2,817.0	-11.6	100.0	Specialty chemicals	28.0	-50.9	100.0	1.0	3,408.0	100.0	0.8
25	26	Hercules	2,620.0	-16.9	100.0	Specialty chemicals	346.0	-27.6	100.0	13.2	5,049.0	100.0	6.9
26	31	Ondeo Nalco	2,600.0	8.3	100.0	Specialty chemicals	na	na	na	na	na	na	na
27	30	Crompton Corp.	2,516.1	-7.8	92.5	Diversified	234.1	-33.4	107.2	9.3	3,130.7	96.9	7.5
28	29	Dow Corning	2,440.0	-11.3	100.0	Specialty chemicals	56.0	-75.8	100.0	2.3	na	na	na
29	24	Akzo Nobel	2,172.7	-2.2	100.0	Diversified	na	na	na	na	na	na	na
30	32	Potash Corp.	2,072.7	-7.1	100.0	Agrochemicals	299.5	-19.4	100.0	14.4	4,597.3	100.0	6.5
31	39	Formosa	2,000.0	17.6	100.0	Basic chemicals	na	na	na	na	na	na	na
32	33	IMC Global	1,958.7	-6.5	100.0	Agrochemicals	107.1	-53.3	100.0	5.5	4,248.9	100.0	2.5
33	34	FMC Corp.	1,943.0	-5.6	100.0	Basic chemicals	191.2	-35.1	100.0	9.8	2,477.2	100.0	7.7
34	28	Celanese	1,913.0	-10.8	100.0	Diversified	-383.1	nm	100.0	def	3,426.8	100.0	def
35	36	Engelhard	1,849.3	-2.0	36.3	Catalysts	283.2	-5.1	88.5	15.3	1,870.0	62.4	15.1
36	38	Lubrizol	1,844.6	3.9	100.0	Specialty chemicals	173.3	-3.1	100.0	9.4	1,662.3	100.0	10.4
37	43	Rhodia	1,741.2	8.9	100.0	Specialty chemicals	na	na	na	na	1,621.2	100.0	na
38	41	W.R. Grace	1,723.2	7.9	100.0	Specialty chemicals	250.1	-1.8	100.0	14.5	2,717.0	100.0	9.2
39	45	Cabot Corp. ^f	1,670.0	10.1	100.0	Basic chemicals	205.0	2.5	100.0	12.3	1,919.0	100.0	10.7
40	40	Great Lakes Chemical	1,594.7	-4.5	100.0	Specialty chemicals	-10.2	nm	100.0	def	1,687.6	100.0	def
41	37	Millennium Chemicals	1,590.0	-11.3	100.0	Basic chemicals	192.0	-41.1	100.0	12.1	2,327.0	100.0	8.3
42	44	Solvay	1,502.1	1.4	67.8	Diversified	na	na	na	na	na	na	na
43	47	Ferro Corp. ^d	1,501.1	3.7	100.0	Specialty chemicals	84.4	-39.5	100.0	5.6	1,732.6	100.0	4.9
44	46	Cytec Industries	1,387.1	-7.1	100.0	Specialty chemicals	125.5	-33.6	100.0	9.0	1,650.4	100.0	7.6
45	50	Shin-Etsu ^g	1,382.7	9.1	100.0	Basic chemicals	163.9	18.6	100.0	11.9	2,110.6	100.0	7.8
46	—	Borden Chemical	1,372.1	-0.3	100.0	Basic chemicals	72.9	-5.3	100.0	5.3	1,129.3	100.0	6.5
47	52	DSM	1,302.5	13.5	100.0	Diversified	na	na	na	na	na	na	na
48	48	H.B. Fuller ^h	1,274.1	-5.8	100.0	Specialty chemicals	88.1	-13.8	100.0	6.9	966.2	100.0	9.1
49	68	Sunoco	1,264.0	73.2	9.0	Petroleum	15.0	-73.7	2.0	1.2	1,325.0	22.3	1.1
50	49	Ashland ^f	1,248.0	-2.7	16.2	Petroleum	58.0	-38.9	6.8	4.6	944.0	13.6	6.1

CHEMICAL

RANK 2001	RANK 2000	COMPANY	CHEMICAL SALES (\$ MILLIONS) 2001	CHANGE FROM 2000	CHEMICAL SALES AS % OF TOTAL SALES	INDUSTRY CLASSIFICATION	CHEMICAL OPERATING PROFITS ^a (\$ MILLIONS)	CHANGE FROM 2000	OPERATING PROFITS AS % OF TOTAL OPERATING PROFIT	PROFIT MARGIN ^b	IDENTIFIABLE CHEMICAL ASSETS (\$ MILLIONS)	CHEMICAL ASSETS AS % OF TOTAL ASSETS	OPERATING RETURN ON CHEMICAL ASSETS ^c
51	42	Georgia Gulf	\$1,205.9	-23.8%	100.0%	Basic chemicals	\$35.8	-78.7%	100.0%	3.0%	\$942.8	100.0%	3.8%
52	51	Kerr-McGee	1,127.0	-10.6	31.0	Petroleum	69.0	-62.7	6.4	6.1	1,636.0	14.9	4.2
53	56	CF Industries	1,087.4	-1.2	100.0	Agrochemicals	-117.6	nm	100.0	def	1,242.8	100.0	def
54	55	Wellman	1,081.3	-3.2	100.0	Basic chemicals	27.5	-56.3	100.0	2.5	1,230.4	100.0	2.2
55	35	Ciba Specialty Chemicals	1,076.9	-10.2	100.0	Specialty chemicals	na	na	na	na	637.0	100.0	na
56	53	Noveon	1,063.4	-8.9	100.0	Specialty chemicals	102.3	-30.5	100.0	9.6	1,661.8	100.0	6.2
57	54	Goodyear	1,037.3	-8.2	7.1	Basic chemicals	60.2	-6.2	16.4	5.8	601.6	4.5	10.0
58	59	Terra Industries	1,032.6	3.1	100.0	Agrochemicals	-61.8	nm	100.0	def	1,336.0	100.0	def
59	—	3M ^d	1,022.0	-14.6	6.4	Diversified	141.0	-37.3	6.2	13.8	1,208.0	8.3	11.7
60	58	Clariant	951.4	-10.5	100.0	Specialty chemicals	-14.8	nm	100.0	def	619.3	100.0	def
61	61	Arch Chemicals	920.8	-2.2	100.0	Specialty chemicals	31.6	-47.8	100.0	3.4	952.0	100.0	3.3
62	63	Albemarle	916.9	-0.1	100.0	Specialty chemicals	100.5	-29.2	100.0	11.0	1,129.5	100.0	8.9
63	62	NL Industries	835.1	-9.5	100.0	Basic chemicals	132.5	-24.2	100.0	15.9	1,151.1	100.0	11.5
64	64	Cognis	814.0	-10.5	100.0	Specialty chemicals	na	na	na	na	na	na	na
65	67	International Specialty Products	787.4	0.4	100.0	Specialty chemicals	154.2	37.7	100.0	19.6	1,960.3	100.0	7.9
66	57	Sterling Chemicals ^f	743.6	-31.0	100.0	Basic chemicals	-38.5	nm	100.0	def	510.1	100.0	def
67	60	Farmland Industries ^l	743.5	-24.1	6.3	Agricultural supplies	-64.6	nm	def	def	647.1	23.7	def
68	65	International Paper	741.0	-12.3	2.8	Paper	na	na	na	na	na	na	na
69	66	Ethyl Corp.	724.5	-11.7	100.0	Basic chemicals	2.1	-96.0	100.0	0.3	719.6	100.0	0.3
70	70	Stepan	711.5	1.8	100.0	Specialty chemicals	31.2	-2.5	100.0	4.4	435.5	100.0	7.2
71	—	OMG	650.2	75.2	27.5	Metals	na	na	na	na	na	na	na
72	73	Sigma Aldrich	648.7	18.3	55.0	Specialty chemicals	na	na	na	na	na	na	na
73	71	Vulcan	641.7	5.9	23.3	Basic chemicals	-19.6	nm	def	def	611.1	18.0	def
74	69	Alcoa	636.0	-9.5	2.8	Metals	na	na	na	na	na	na	na
75	72	Phelps Dodge	582.0	-2.7	14.5	Basic chemicals	106.9	-20.2	27.5	18.4	709.0	9.3	15.1

a Operating profit is sales less administrative expenses and cost of sales. **b** Chemical operating profit as a percentage of sales. **c** Chemical operating profit as a percentage of identifiable assets. **d** Chemical sales include a significant amount of nonchemical products. **e** Profits and profitability ratios are after tax. **f** Fiscal year ended Sept. 30. **g** Fiscal year ended March 31. **h** Fiscal year ended Dec. 1. **i** Fiscal year ended Aug. 31. **def** = deficit. **na** = not available. **nm** = not meaningful.

slot. DuPont topped the list that year with about \$3.3 billion in chemical sales, a figure that would put it at 19 on this year's list.

The difference in chemical sales between Dow and DuPont—now at just over \$1 billion—is likely to widen in coming years. In February, DuPont announced it would shed its fibers business, possibly in a spin-off to shareholders, by the end of next year. The move will knock about \$6.5 billion off DuPont's current \$26.8 billion top line. But with ExxonMobil's chemical sales at about \$16 billion, DuPont's number two position seems safe, assuming no major mergers or divestitures.

Besides Carbide, another company that has dropped off the list is polyvinyl chloride maker Borden Chemicals & Plastics. It is bankrupt and late in filing its 10-K annual report with the Securities & Exchange Commission.

But even if Borden had filed, it is unlikely the company would have made the list; it had only about \$280 million in sales for the first three quarters of 2001. Phelps Dodge is at the bottom of the list with \$582

million in sales, and Borden would have had to make up the difference in a single quarter. Readers shouldn't await Borden's return next year, either. Its chief executive officer recently talked to C&EN about completing the liquidation of the company.

Similarly, Mississippi Chemical, which placed 75th last year, dropped off the 2002 list because its \$540 million in sales was not enough to make the cutoff.

C&EN is replacing one Borden with another. Borden Chemical, which is separate from but historically connected to Borden Chemicals & Plastics through common ownership, makes the list at number 46 this year. Borden Chemical was formerly a part of Borden Inc., the food and dairy conglomerate that Kohlberg, Kravis, Roberts & Co. acquired in 1995. As institutional buyers often do, KKR broke up Borden, leaving only Borden Chemical. The company, which now has publicly traded debt, filed a 10-K this year for the first time.

OM Group also joins the list this year at number 71 because of its acquisition of part of Degussa's metals and catalyst business,

dmc², last September. OMG—which had a modest base-metals chemical business—now has enough catalysts and other chemical products in its portfolio to make the Top 75. In fact, with a full year of dmc² sales under its belt, OMG will likely climb the ranking next year. Ferro Corp., which is 43 on the list this year, may also get a push in 2002 from buying the rest of dmc².

On the strength of 3M's specialty materials segment, which includes chemical sales, 3M is joining the Top 75 list this year in the 59th slot. There are nonchemical sales in that segment as well, but C&EN decided that including 3M with a footnote was more informative than not including the company's chemical operations at all.

Readers might notice Bayer Corp.'s absence. This is because Bayer lumps pharmaceuticals and other nonchemical products into its North American sales figure. The Top 75 includes chemical businesses only, not drug operations. But if C&EN included Bayer as is, then its total North American sales of \$8.8 billion would put it at number four on the list.

UNPROFITABLE YEAR

Top 75 in terms of chemical sales, operating profits, assets, and profitability

	CHEMICAL SALES			CHEMICAL OPERATING PROFITS			CHEMICAL OPERATING PROFIT MARGIN			IDENTIFIABLE CHEMICAL ASSETS			RETURN ON CHEMICAL ASSETS		
	2001	RANK		2001	RANK		2001	RANK		2001	RANK		2001	RANK	
		2000	2001		2000	2001		2000	2001		2000	2001		2000	2001
Air Products	\$5,466.8	11	14	\$864.9	5	6	15.8%	7	7	\$7,768.8	6	7	11.1%	8	14
Akzo Nobel	2,172.7	29	24	na	—	22	na	—	40	na	—	29	na	—	17
Albemarle	916.9	62	63	100.5	26	34	11.0	16	11	1,129.5	44	46	8.9	15	9
Alcoa	636.0	74	69	na	—	—	na	—	—	na	—	—	na	—	—
Arch Chemicals	920.8	61	61	31.6	38	43	3.4	34	42	952.0	47	42	3.3	34	40
Ashland	1,248.0	50	49	58.0	34	40	4.6	31	39	944.0	48	47	6.1	27	20
Atofina	4,380.0	16	17	na	—	—	na	—	—	na	—	—	na	—	—
BASF	6,851.9	6	6	na	—	—	na	—	—	na	—	—	na	—	—
Borden Chemical	1,372.1	46	—	72.9	29	—	5.3	30	—	1,129.3	45	—	6.5	24	—
BP	5,300.0	13	15	62.0	31	—	1.2	40	—	na	—	—	—	—	—
Cabot Corp.	1,670.0	39	45	205.0	14	32	12.3	13	27	1,919.0	28	28	10.7	10	34
Celanese	1,913.0	34	28	-383.1	53	—	def	—	—	3,426.8	19	—	def	—	—
CF Industries	1,087.4	53	56	-117.6	51	56	def	—	—	1,242.8	40	35	def	—	—
Chevron Phillips	6,010.0	7	7	-431.0	54	—	def	—	—	5,860.0	12	8	def	—	—
Ciba Specialty Chemicals	1,076.9	55	35	na	—	—	na	—	—	637.0	53	39	na	—	—
Clariant	951.4	60	58	-14.8	45	44	def	—	44	619.3	54	49	def	—	35
Cognis	814.0	64	64	na	—	—	na	—	—	na	—	—	na	—	—
Crompton Corp.	2,516.1	27	30	234.1	13	14	9.3	21	18	3,130.7	22	22	7.5	21	21
Cytec Industries	1,387.1	44	46	125.5	22	27	9.0	22	19	1,650.4	35	32	7.6	20	18
Degussa	3,007.9	22	27	na	—	—	na	—	—	na	—	—	na	—	—
Dow Chemical	27,805.0	1	2	1,247.0	3	1	4.5	32	30	35,515.0	1	1	3.5	33	31
Dow Corning	2,440.0	28	29	56.0	35	22	2.3	37	34	na	—	11	na	—	46
DSM	1,302.5	47	52	na	—	—	na	—	—	na	—	—	na	—	—
DuPont	26,787.0	2	1	na	—	—	na	—	—	25,566.0	2	2	na	—	—
Eastman Chemical	5,384.0	12	13	-126.0	52	10	def	—	25	6,086.0	10	10	def	—	28
Engelhard	1,849.3	35	36	283.2	10	18	15.3	8	10	1,870.0	29	31	15.1	3	4
Equistar Chemicals	5,909.0	9	8	-44.0	48	15	def	—	49	6,308.0	8	9	def	—	43
Ethyl Corp.	724.5	69	66	2.1	43	48	0.3	43	41	719.6	50	45	0.3	41	42
ExxonMobil ^a	15,943.0	3	3	882.0	4	4	5.5	28	45	17,019.0	3	—	5.2	28	—
Farmland Industries	743.5	67	60	-64.6	50	53	def	—	—	647.1	52	55	def	—	—
Ferro	1,501.1	43	47	84.4	28	33	5.6	27	24	1,732.6	30	40	4.9	29	11
FMC Corp.	1,943.0	33	34	191.2	16	19	9.8	18	15	2,477.2	24	25	7.7	19	13
Formosa	2,000.0	31	39	na	—	—	na	—	—	na	—	—	na	—	—
General Electric	7,069.0	5	5	1,596.0	1	2	22.6	2	2	10,154.0	4	3	15.7	2	1
Georgia Gulf	1,205.9	51	42	35.8	37	31	3.0	35	25	942.8	49	43	3.8	32	4
Goodyear	1,037.3	57	54	60.2	33	42	5.8	26	43	601.6	56	51	10.0	12	28
Great Lakes Chemical	1,594.7	40	40	-10.2	44	26	na	—	20	1,687.6	32	27	def	—	24
H.B. Fuller	1,274.1	48	48	88.1	27	38	6.9	24	37	966.2	46	44	9.1	14	22
Hercules	2,620.0	25	26	346.0	8	11	13.2	12	12	5,049.0	14	15	6.9	23	22
Honeywell	3,313.0	18	18	52.0	36	15	1.6	39	35	4,053.0	18	—	1.3	38	—
Huntsman Corp.	8,500.0	4	4	na	—	—	na	—	—	na	—	—	na	—	—
ICI	2,962.7	23	23	na	—	20	na	—	33	1,723.2	31	—	na	—	—
IMC Global	1,958.7	32	33	107.1	23	24	5.5	28	21	4,248.9	17	18	2.5	35	41
International Paper	741.0	68	65	na	—	—	na	—	—	na	—	—	na	—	—
International Specialty Products	787.4	65	67	154.2	19	37	19.6	4	15	1,960.3	27	30	7.9	17	39
Kerr-McGee	1,127.0	52	51	69.0	30	28	6.1	25	13	1,636.0	36	34	4.2	31	16
Lubrizol	1,844.6	36	38	173.3	17	29	9.4	20	29	1,662.3	33	33	10.4	11	19
Lyondell Chemical	3,226.0	19	19	274.0	11	12	8.5	23	21	6,181.0	9	12	4.4	30	37
Millennium Chemicals	1,590.0	41	37	192.0	15	17	12.1	14	6	2,327.0	25	24	8.3	16	12
Monsanto	3,755.0	17	21	775.0	6	5	20.6	3	1	5,923.0	11	13	13.1	5	3
NL Industries	835.1	63	62	132.5	21	25	15.9	6	4	1,151.1	43	41	11.5	7	2
Nova Chemicals	3,194.0	20	20	62.0	31	8	1.9	38	5	4,359.0	16	16	1.4	37	7
Noveon	1,063.4	56	53	102.3	25	36	9.6	19	28	1,661.8	34	37	6.2	26	28
Occidental Petroleum	3,092.0	21	22	-437.0	55	30	def	—	47	3,411.0	20	20	def	—	44
OMG	650.2	71	—	na	—	—	na	—	—	na	—	—	na	—	—

	CHEMICAL SALES			CHEMICAL OPERATING PROFITS			CHEMICAL OPERATING PROFIT MARGIN			IDENTIFIABLE CHEMICAL ASSETS			RETURN ON CHEMICAL ASSETS		
	RANK			RANK			RANK			RANK			RANK		
	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	2001	2000	
Ondeo Nalco	\$2,600.0	26	31	na	—	—	na	—	—	na	—	—	na	—	
Phelps Dodge	582.0	75	72	\$106.9	24	41	18.4%	5	13	\$709.0	51	50	15.1%	3	
Potash Corp.	2,072.7	30	32	299.5	9	13	14.4	10	8	4,597.3	15	19	6.5	24	
PPG Industries	5,933.0	8	10	586.0	7	7	9.9	17	17	5,265.0	13	14	11.1	8	
Praxair	5,158.0	14	16	1,333.0	2	3	25.8	1	3	7,715.0	7	6	17.3	1	
Rhodia	1,741.2	37	43	na	—	—	na	—	—	1,621.2	37	—	na	—	
Rohm and Haas	4,917.0	15	12	na	—	—	na	—	—	8,394.0	5	4	na	—	
Shell Oil	5,524.0	10	11	na	—	50	na	—	52	na	—	17	na	—	
Shin-Etsu	1,382.7	45	50	163.9	18	35	11.9	15	21	2,110.6	26	26	7.8	18	
Sigma Aldrich	648.7	72	73	na	—	—	na	—	—	na	—	—	na	—	
Solutia	2,817.0	24	25	28.0	40	45	1.0	42	51	3,408.0	21	21	0.8	40	
Solvay	1,502.1	42	44	na	—	—	na	—	—	na	—	—	na	—	
Stepan	711.5	70	70	31.2	39	52	4.4	33	47	435.5	58	56	7.2	22	
Sterling Chemicals	743.6	66	57	-38.5	47	39	def	—	31	510.1	57	53	def	—	
Sunoco	1,264.0	49	68	15.0	42	45	1.2	40	36	1,325.0	39	52	1.1	39	
Terra Industries	1,032.6	58	59	-61.8	49	49	def	—	50	1,336.0	38	36	def	—	
3M	1,022.0	59	—	141.0	20	—	13.8	11	—	1,208.0	42	—	11.7	6	
Vulcan	641.7	73	71	-19.6	46	55	def	—	—	611.1	55	54	def	—	
W.R. Grace	1,723.2	38	41	250.1	12	21	14.5	9	9	2,717.0	23	23	9.2	13	
Wellman	1,081.3	54	55	27.5	41	47	2.5	36	46	1,230.4	41	38	2.2	36	

NOTE: There are 55 companies ranked for operating profits, 43 ranked for operating profit margins, 58 ranked for chemical assets, and 41 ranked for return on chemical assets. **a** Reported after-tax profits only. **def** = deficit. **na** = not available.

Mergers and acquisitions left the Top 75 list relatively unchanged this year. Recent years saw big changes like the formation of Chevron Phillips and the mergers of Rohm and Haas with Morton and of Exxon with Mobil. Other than Dow's and OMG's, the only acquisition that made a big difference to the Top 75 in 2002 is

Sunoco's purchase of Aristech in January 2001. Sunoco had a full year of Aristech on its books, propelling it from 68th to 49th place.

The poor results posted by chemical companies had far more of an impact on this year's Top 75 than did mergers. A recession in 2001 made for abysmal results—

not just in petrochemicals, but across the board. Of the 75 companies ranked, 50 reported a decrease in sales for 2001. It should come as no surprise that many observers say 2001 was the chemical industry's worst year since the early 1980s.

Overall, the Top 75 U.S. chemical companies generated \$241.1 billion in sales in 2001, an 8% decrease from a year ago. In 2000, sales increased by 16%, mostly because of higher raw material costs.

Operating profits, probably the best measure of how companies are weathering the business cycle, fell more than sales. In 2001, 12 companies posted losses—five of which were more than \$100 million.

Of the 43 companies that reported positive operating income, a staggering 39 reported a decrease in profits. Praxair, Cabot, Shin-Etsu, and International Specialty Products were the lucky few that actually made more money last year than they did in 2000. General Electric posted the highest operating profit in 2001, nearly \$1.6 billion, but its profits were 17% lower than they were the year before.

On a positive note, most experts say the worst is behind the industry and profitability should improve over the next couple of years. The U.S. economy is also showing signs of recovery, foremost among them the 5.8% jump in gross domestic product in the first quarter. If this is sustained, chemical companies will ride the coattails of the improving economy, making C&EN's ranking more upbeat. ■

METHODOLOGY

Compiling The Top 75

C&EN ranks the Top 75 U.S. chemical producers by chemical sales, defined as sales of chemical and allied products, except pharmaceuticals. Ranking the companies by chemical sales is the only way that privately held companies, some diversified producers, and U.S. operations of many foreign-owned producers can be included. If, for example, C&EN used market capitalization, the ranking couldn't include Huntsman.

Because chemical sales are derived from company annual reports, nonchemical products often creep in. For instance, DuPont includes sales of seeds along with agrochemicals in its agricultural products segment. C&EN does not restate prior-year results, except when a company changes accounting procedures. Thus, Dow jumped from number two to number one because of its merger with Union Carbide.

Nor does C&EN routinely restate prior-year rankings. In the case of mergers, acquisitions, or name changes, the prior-year ranking of the surviving company is used, as in the case of Noveon, which was listed as BFGoodrich last year.

C&EN tries to treat the chemical sales of U.S. operations of foreign-owned companies the same as it treats those of U.S.-owned companies—that is, as chemical sales that are administered by the U.S. headquarters. Thus, if the U.S. headquarters has responsibility for the products, all sales are counted, regardless of destination. A comparison of total global operations of chemical producers is scheduled to appear in the July 29 issue of C&EN.

To compile the information included for the Top 75 U.S. chemical producers, C&EN uses, for the most part, official company documents such as annual reports and 10-K filings with the Securities & Exchange Commission. In the case of privately held companies and some foreign-owned producers, company interviews are used.