

# FINANCES: PRICES DROVE IMPROVEMENT

Shipments were up, but so were costs; future-oriented spending continued to suffer

**L**AST YEAR WAS A MIXED BAG FOR chemical company finances. Demand for chemicals improved in many countries, chemical prices were higher—often much higher—but costs were rising, especially the prices that companies were paying for raw materials.

Although the year before last, economists predicted a turnaround for 2003, the year turned out to be almost anything but. It was not until the last quarter of 2003 that, in the U.S. at least, chemical companies began to see some signs of a recovery. In that quarter, the 25 large and medium-size chemical companies that C&EN regularly surveys turned in higher earnings than they had the year before. That fourth quarter presented a remarkable increase: Earnings jumped 95.9% to \$1.56 billion.

But underlying that huge increase was the fact that just a few companies actually showed much real improvement. Of the 25, four companies were still in the red and an additional nine had lower earnings than they had shown in the fourth quarter of 2002.

It was no wonder that U.S. chemical ex-

ecutives, at that time, were cautious about predicting any kind of upturn. Raw material and feedstock costs had cut deeply into earnings in 2003. Despite the huge increase in fourth-quarter earnings, and despite a 12.2% increase in sales for the year, those 25 companies were able to manage only a 4.6% earnings increase for all of 2003.

At Ferro, Chief Executive Officer Hector R. Ortino said, "We are cautiously optimistic about the sustainability of the economic recovery that appears to be taking shape in North America." And at Dow, which had come from a big loss in fourth-quarter 2002 to a modest gain in the same period of 2003, CEO William S. Stavropoulos said, "There is still uncertainty due to high feedstock and energy costs, which will remain volatile."

Stavropoulos was certainly right, as anyone who buys gasoline or pays an electric or natural gas bill knows.

Chemical shipments in the U.S. in 2003 totaled \$458.1 billion, an 8.9% increase over

the prior year. In Canada, however, chemical demand growth was much less, with just a 3.5% increase to \$29.4 billion.

In Europe, chemical shipments were down for four of the seven countries surveyed. Belgium, which had seen a big increase in shipments in 2002, had a 0.7% decline in 2003 to \$50.0 billion. Italy was off 0.5% to \$73.7 billion. France fell 1.4% to \$94.3 billion. And Germany saw chemical shipments drop 1.6% to \$147.5 billion.

This leaves the Netherlands, Spain, and the U.K. Chemical shipments rose 2.0% in the U.K. to \$61.5 billion; 3.4% in the Netherlands to \$38.5 billion; and 4.2% in Spain to \$44.4 billion.

Meanwhile, prices were rising. In the U.S., the producer price index for all chemicals jumped 6.5% to 112.7. (All indexes are keyed to 1997 = 100.) And within the broad category, there were much bigger increases. Industrial chemicals were up 11.3% to 112.1, and plastic materials and

resins rose 11.8% to 106.4. And for a really big increase, inedible fats and oils had a surge of 36.7%, but to an index of just 93.3.

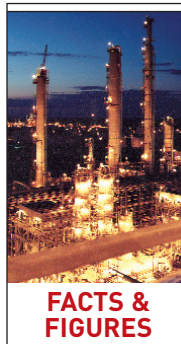
In Canada, prices were also climbing, but in most cases not as fast as in the U.S. The index for all chemicals rose just 2.9% to 110.4, spurred largely by a 7.8% increase in the index for organic industrial chemicals to 133.4.

European countries also had slower chemical price growth than the U.S. In Italy, with its 0.5% decline in shipments, prices fell 0.2% to 109.9. On the positive side, France's index rose 1.5% to 105.1; Spain, 2.9% to 109.9; the Netherlands, 3.0% to 112.7; the U.K., 3.4% to 115.6; and Germany, 5.2% to 109.4.

Chemical companies weren't ready to spend a lot of money on new plant and equipment in 2003. In the U.S., capital spending for 25 companies surveyed by C&EN rose just 2.2% to \$6.46 billion. In Canada, however, the four major firms spent a combined \$623 million, up 25.9% from 2003.

European and Japanese companies were much more parsimonious. Capital spending at 17 European chemical producers declined 21.8% to \$10.8 billion. And in Japan, 12 companies spent an aggregate \$5.60 billion, 9.3% less than the year before.

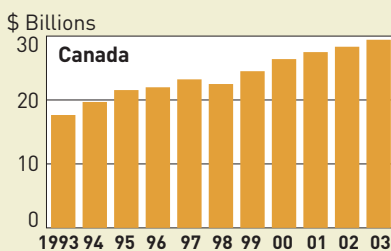
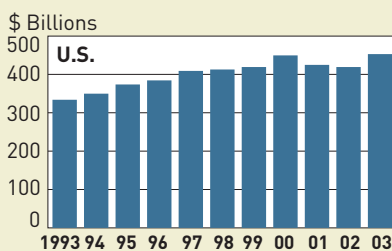
Spending on research and development was also lackluster, with an increase of just 0.1% among the U.S. firms to a total \$4.41 billion. The European companies cut R&D spending by 3.5% to \$8.79 billion, and in Japan, outlays for R&D declined 1.0% to \$3.43 billion.



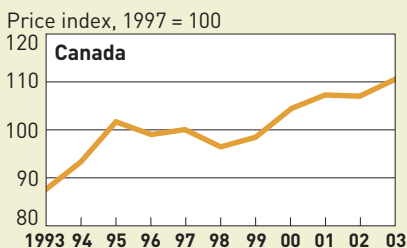
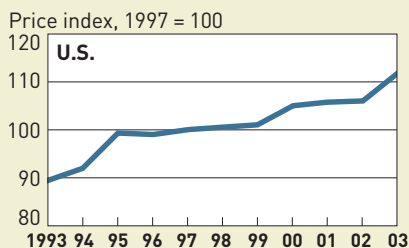
FACTS & FIGURES

## DEMAND

Chemical shipments rose in the U.S. and Canada ...



... but mostly on the strength of price increases



SOURCES: Departments of Labor and of Commerce, Statistics Canada

## U.S. SHIPMENTS

All categories except agricultural chemicals grew

\$ BILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
All chemicals	\$330.6	\$350.5	\$377.8	\$385.3	\$415.6	\$416.6	\$419.5	\$442.2	\$427.4	\$420.5	\$458.1	8.9%	3.3%
Chemicals, excluding pharmaceuticals	259.9	274.9	297.2	299.3	322.7	313.2	311.7	320.4	307.7	315.1	343.8	9.1	2.8
Agricultural chemicals	18.8	20.9	23.0	23.5	24.2	24.2	21.6	20.3	20.7	19.7	19.4	-1.5	0.3
Coatings & adhesives	21.9	23.2	23.8	24.7	26.4	26.8	27.5	29.7	30.0	28.4	28.6	0.7	2.7
All other chemicals	219.3	230.8	250.5	251.0	272.1	262.1	262.5	270.3	256.9	267.0	295.7	10.7	3.0
Pharmaceuticals	70.7	75.6	80.6	86.0	92.9	103.4	107.8	121.8	119.7	105.4	114.3	8.4	4.9

SOURCE: American Chemistry Council, using Department of Commerce data

## CANADA SHIPMENTS

Most chemical products were up in 2003

\$ BILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
All manufacturing	\$216.9	\$247.6	\$278.2	\$285.5	\$304.4	\$314.9	\$364.3	\$400.6	\$387.0	\$392.8	\$389.5	-0.8%	6.0%
Chemical manufacturing	17.7	19.8	21.5	21.6	23.2	22.4	24.4	26.5	27.5	28.4	29.4	3.5	5.2
Basic chemicals	5.1	6.1	6.3	5.8	6.4	6.1	6.6	7.8	8.2	8.1	8.6	5.3	5.2
Petrochemicals	1.3	1.6	1.9	1.7	2.0	1.8	2.1	3.2	3.1	2.9	3.1	10.0	9.3
Resins & synthetic rubber	2.4	3.1	3.6	3.7	4.2	4.0	4.4	5.0	4.6	4.6	4.8	4.7	7.0
Pesticide, fertilizer & other agricultural chemicals	1.1	1.4	1.7	1.9	1.9	1.9	1.8	1.8	1.8	1.6	2.0	21.7	5.8
Pharmaceuticals & medicine	3.3	3.2	3.4	3.4	3.5	3.4	3.6	3.9	4.9	5.8	6.1	4.9	6.3
Paints, coatings & adhesives	1.4	1.4	1.4	1.6	1.6	1.7	1.9	1.8	1.9	1.9	2.0	3.7	4.0
Soaps, cleaners & toilet preparations	2.0	2.1	2.2	2.1	2.1	2.1	2.7	2.4	2.4	2.4	2.1	-9.1	0.7

NOTE: Monetary statistics for all years were converted on the basis of the 2003 average exchange rate of \$1.00 U.S. = \$1.401 Canadian.

SOURCE: Statistics Canada

## EUROPE SHIPMENTS, BY COUNTRY

Mixed performance in 2003 offered some hope of upturn for chemical industry

\$ BILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
Belgium	\$23.7	\$27.1	\$30.5	\$31.0	\$31.1	\$32.8	\$33.3	\$39.9	\$47.9	\$50.4	\$50.0	-0.7%	4.0%
France	63.3	67.7	73.2	73.9	78.4	79.7	83.0	92.9	96.3	95.6	94.3	-1.4	2.1
Germany	116.1	123.6	127.0	124.7	133.7	132.1	137.3	152.8	151.5	149.9	147.5	-1.6	1.3
Italy	50.3	53.1	55.3	60.0	63.3	63.1	64.5	70.7	72.6	74.0	73.7	-0.5	2.0
Netherlands	21.2	22.3	27.0	27.0	29.2	29.8	30.8	37.2	37.2	37.2	38.5	3.4	3.2
Spain	24.2	26.7	28.8	30.0	31.2	32.9	34.3	39.5	41.4	42.6	44.4	4.2	3.3
U.K.	43.6	47.8	46.0	47.3	52.4	51.8	55.5	60.7	62.2	60.3	61.5	2.0	1.8

NOTE: Monetary statistics for all years were converted from local currencies to U.S. dollars on the basis of the 2003 average exchange rates of \$1.00 U.S. = 0.884 euros and 0.612 pounds sterling. SOURCES: European Chemical Industry Council, national agencies



DSM PHOTO

**U.S. PRICE INDEX**

Modest to large increases seen in all categories

PRODUCER PRICE INDEX, 1997 = 100	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
All commodities	93.2	94.4	97.7	100.1	100.0	97.5	98.4	104.0	105.2	102.7	108.2	5.3%	1.5%
Industrial commodities	93.2	94.5	98.3	99.7	100.0	97.7	99.1	105.6	106.3	103.7	108.9	5.1	1.6
Finished goods	94.6	95.2	97.0	99.6	100.0	99.2	100.9	104.7	106.8	105.4	108.7	3.2	1.4
Chemicals & allied products	89.3	92.0	99.2	99.0	100.0	100.2	100.4	105.2	105.7	105.8	112.7	6.5	2.4
Industrial chemicals	87.3	90.4	101.6	100.2	100.0	96.0	94.1	102.1	101.6	100.7	112.1	11.3	2.5
Prepared paint	87.6	89.0	93.4	96.8	100.0	101.8	103.5	105.7	108.1	109.7	112.3	2.3	2.5
Paint materials	92.9	93.4	98.5	99.9	100.0	101.6	101.8	104.9	105.9	117.2	122.2	4.2	2.8
Drugs & pharmaceuticals	91.7	94.0	96.3	98.0	100.0	110.7	114.8	117.5	119.5	121.3	125.4	3.3	3.2
Fats & oils, inedible	72.3	83.6	95.9	100.8	100.0	88.2	66.8	53.0	58.7	68.3	93.3	36.7	2.6
Agricultural chemicals	82.8	90.4	98.0	100.8	100.0	96.8	93.1	93.8	98.6	93.3	101.9	9.2	2.1
Plastic resins & materials	85.3	89.1	104.5	96.9	100.0	91.3	91.6	103.1	97.7	95.2	106.4	11.8	2.2
Other chemicals & products	94.1	95.3	98.0	99.3	100.0	101.1	101.5	102.9	104.7	98.0	105.9	8.0	1.2

SOURCE: Department of Labor

**CANADA PRICE INDEX**

Prices tended to pick up in 2003

PRODUCER PRICE INDEX, 1997 = 100	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
All commodities	86.8	92.0	98.9	99.3	100.0	100.4	102.2	106.5	107.6	107.6	106.2	-1.3%	2.0%
Chemicals & chemical products	87.0	93.2	101.8	99.8	100.0	96.9	98.6	104.8	107.4	107.3	110.4	2.9	2.4
Inorganic industrial chemicals	85.4	88.5	101.0	102.9	100.0	99.7	97.7	98.6	104.4	104.9	106.7	1.7	2.3
Sulfuric acid	97.7	93.0	99.5	103.6	100.0	87.5	84.4	82.1	91.1	90.9	87.4	-3.9	-1.1
Caustic soda	89.5	87.3	125.9	117.7	100.0	100.4	90.2	91.3	118.6	101.4	99.4	-2.0	1.1
Ammonia	60.5	75.6	102.9	106.6	100.0	88.4	84.0	86.5	91.4	89.4	97.8	9.4	4.9
Organic industrial chemicals	76.2	94.5	107.1	97.2	100.0	91.6	98.4	119.1	128.3	123.8	133.4	7.8	5.8
Benzene-toluene-xylene	84.4	96.9	93.5	92.0	100.0	80.2	90.4	144.3	119.8	107.3	106.2	-1.0	2.3
Olefins	82.9	94.8	101.7	100.3	100.0	95.7	115.3	142.4	158.3	145.0	169.8	17.1	7.4
Synthetic resins	79.5	90.8	106.9	98.0	100.0	90.6	92.8	103.2	100.7	99.0	101.3	2.3	2.5
Polyethylene <sup>a</sup>	73.5	83.5	104.5	96.3	100.0	87.7	91.2	97.3	94.7	91.0	96.1	5.6	2.7
Polystyrene	87.0	97.7	122.8	106.7	100.0	96.2	95.8	100.9	100.4	100.0	103.6	3.6	1.8
Thermosets	82.7	94.1	101.7	99.1	100.0	98.4	93.9	103.2	133.1	108.4	108.4	0.0	2.7
Agricultural chemicals	88.8	91.4	94.2	99.3	100.0	105.0	103.8	103.7	103.7	103.7	104.1	0.4	1.6
Pharmaceuticals	100.9	100.6	100.3	100.5	100.0	99.8	100.6	101.2	101.8	105.9	107.4	1.4	0.6
Paints & varnishes	88.1	89.4	94.3	97.7	100.0	101.4	102.9	106.0	109.8	111.9	113.8	1.7	2.6
Soaps & cleaners	100.4	99.4	100.3	101.3	100.0	99.3	100.0	100.3	101.5	100.7	100.7	0.0	0.0
Toilet preparations	96.1	98.7	98.7	98.5	100.0	102.6	104.8	107.4	108.9	110.4	111.5	1.0	1.5
Pigments, lakes & toners	80.0	83.7	90.6	96.2	100.0	103.4	105.2	107.0	105.2	103.3	101.3	-1.9	2.4

a Includes includes high- and low-density polyethylene. SOURCE: Statistics Canada

**EUROPE PRICE INDEX**

Producer prices rose in most major countries in 2003

CHEMICAL PRODUCER PRICE INDEX, 1997 = 100	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	ANNUAL CHANGE	
												2002-03	1993-03
Belgium	91.4	97.1	106.7	102.5	100.0	99.0	99.1	105.7	111.9	112.2	na	—	—
France	95.7	97.2	102.5	101.5	100.0	98.9	98.6	103.0	104.2	103.5	105.1	1.5%	—
Germany	98.9	100.4	107.4	101.8	100.0	99.1	98.3	103.0	105.1	104.0	109.4	5.2	1.0%
Italy	87.8	88.3	90.5	96.6	100.0	97.8	98.5	107.0	107.5	110.1	109.9	-0.2	2.3
Netherlands	90.4	94.2	103.2	99.2	100.0	95.6	94.3	110.1	109.1	109.4	112.7	3.0	2.2
Spain	94.3	92.5	101.6	101.1	100.0	95.9	96.2	105.7	105.9	106.8	109.9	2.9	1.5
U.K.	83.1	85.7	85.9	86.5	100.0	98.9	100.0	108.3	111.6	111.8	115.6	3.4	3.4

na = not available. SOURCES: European Chemical Industry Council, national chemical associations

## TOP 50 U.S. CHEMICAL COMPANIES

Sales and profits improved for many of the major U.S. chemical producers in 2003

RANK		COMPANY	CHEMICAL SALES (\$ MILLIONS) 2003	CHANGE FROM 2002	CHEMICAL SALES AS % OF TOTAL SALES	HEADQUARTERS	CHEMICAL OPERATING PROFITS <sup>a</sup> (\$ MILLIONS)	CHANGE FROM 2002	CHEMICAL OPERATING PROFITS AS % OF TOTAL OPERATING PROFIT		IDENTIFIABLE CHEMICAL ASSETS (\$ MILLIONS)	CHEMICAL ASSETS AS % OF TOTAL ASSETS	OPERATING RETURN ON CHEMICAL ASSETS <sup>c</sup>
2003	2002								OPERATING PROFIT	OPERATING PROFIT MARGIN <sup>b</sup>			
1	1	Dow Chemical	\$32,632.0	18.2%	100.0%	Midland, Mich.	\$2,082.0	78.7%	100.0%	6.4%	\$30,566.0	73.0%	6.8%
2	2	DuPont <sup>d</sup>	30,249.0	13.2	99.9	Wilmington, Del.	na	na	na	na	23,813.0	98.9	na
3	3	ExxonMobil <sup>e</sup>	20,190.0	23.0	8.5	Irving, Texas	1,432.0	72.5	6.7	7.1	19,508.0	11.2	7.3
4	4	General Electric	8,371.0	9.4	6.2	Fairfield, Conn.	803.0	-28.6	4.0	9.6	15,044.0	2.3	5.3
5	8	Chevron Phillips	7,018.0	28.2	100.0	The Woodlands, Texas	76.0	85.4	100.0	1.1	6,242.0	100.0	1.2
6	5	Huntsman Corp.	6,990.2	-2.9	100.0	Salt Lake City	68.7	na	100.0	1.0	8,737.4	100.0	0.8
7	6	PPG Industries	6,606.0	10.2	75.4	Pittsburgh	939.0	28.8	96.0	14.2	5,450.0	64.7	17.2
8	7	Equistar Chemicals	6,545.0	18.2	100.0	Houston	-62.0	nm	100.0	def	5,028.0	100.0	def
9	11	Air Products <sup>f</sup>	6,029.5	17.6	95.7	Allentown, Pa.	651.9	-20.2	107.8	10.8	9,127.9	96.8	7.1
10	9	Eastman Chemical	5,800.0	9.0	100.0	Kingsport, Tenn.	223.0	4.7	100.0	3.8	6,230.0	100.0	3.6
11	12	Rohm and Haas	5,620.0	11.9	87.5	Philadelphia	na	na	na	na	7,792.0	82.5	na
12	10	Praxair	5,613.0	9.5	100.0	Danbury, Conn.	1,444.0	6.3	100.0	25.7	8,305.0	100.0	17.4
13	13	Lyondell Chemical	3,801.0	16.5	100.0	Houston	-1.0	nm	100.0	def	6,436.0	96.5	def
14	16	Occidental Petroleum	3,178.0	17.5	34.1	Los Angeles	213.0	nm	7.5	6.7	3,512.0	19.3	6.1
15	14	Honeywell	3,169.0	-1.1	13.7	Morristown, N.J.	136.0	138.6	5.4	4.3	3,239.0	11.0	4.2
16	17	Dow Corning	2,872.5	10.1	100.0	Midland, Mich.	340.8	24.3	100.0	11.9	6,008.2	100.0	5.7
17	15	Monsanto <sup>g</sup>	2,851.0	-7.7	64.8	St. Louis	20.0	-94.5	def	0.7	4,826.0	51.0	0.4
18	—	Nalco	2,766.6	4.6	100.0	Naperville, Ill.	329.4	-15.3	100.0	11.9	6,163.8	100.0	5.3
19	20	Solutia	2,430.0	8.4	100.0	St. Louis	-291.0	nm	100.0	def	2,446.0	100.0	def
20	21	IMC Global	2,190.6	6.5	100.0	Lake Forest, Ill.	101.6	-44.3	100.0	4.6	3,670.7	100.0	2.8
21	23	Engelhard	2,054.4	9.9	55.3	Iselin, N.J.	284.7	-1.6	101.1	13.9	1,665.4	56.8	17.1
22	22	Lubrizol	2,049.1	3.5	100.0	Wickliffe, Ohio	171.5	-13.7	100.0	8.4	1,942.3	100.0	8.8
23	18	Crompton Corp.	2,031.8	-14.4	93.0	Middlebury, Conn.	114.1	-53.4	def	5.6	2,444.9	96.7	4.7
24	25	W.R. Grace	1,980.5	9.0	100.0	Columbia, Md.	273.1	7.5	100.0	13.8	2,874.2	100.0	9.5
25	24	FMC Corp.	1,921.4	3.7	100.0	Philadelphia	196.6	5.2	100.0	10.2	2,828.8	100.0	6.9
26	26	Hercules	1,846.0	8.3	100.0	Wilmington, Del.	280.0	4.1	100.0	15.2	2,766.0	100.0	10.1
27	27	Cabot Corp. <sup>f</sup>	1,795.0	15.3	100.0	Boston	107.0	-34.0	100.0	6.0	2,308.0	100.0	4.6
28	28	Millennium Chemicals	1,687.0	8.6	100.0	Red Bank, N.J.	183.0	-6.2	100.0	10.8	1,929.0	100.0	9.5
29	31	Sunoco	1,627.0	19.5	9.1	Philadelphia	84.0	95.3	17.0	5.2	1,455.0	21.0	5.8
30	29	Ferro Corp. <sup>d</sup>	1,622.4	6.1	100.0	Cleveland	72.0	-29.9	100.0	4.4	1,751.2	100.0	4.1
31	32	Cytec Industries	1,471.8	9.3	100.0	West Paterson, N.J.	145.1	20.4	100.0	9.9	2,025.9	100.0	7.2
32	30	Great Lakes Chemical	1,464.6	4.5	100.0	Indianapolis	16.8	-85.6	100.0	1.1	1,693.2	100.0	1.0
33	36	Georgia Gulf	1,444.5	17.4	100.0	Atlanta	69.7	-29.1	100.0	4.8	856.8	100.0	8.1
34	35	Borden Chemical	1,434.8	15.0	100.0	Columbus, Ohio	70.5	31.3	100.0	4.9	993.9	100.0	7.1
35	—	Westlake Chemical	1,423.0	32.7	100.0	Houston	64.1	443.2	100.0	4.5	1,385.9	100.0	4.6
36	39	Terra Industries	1,349.2	29.4	100.0	Sioux City, Iowa	27.7	nm	100.0	2.1	1,125.1	100.0	2.5
37	34	H.B. Fuller <sup>h</sup>	1,287.3	2.5	100.0	St. Paul, Minn.	68.0	20.6	100.0	5.3	1,007.6	100.0	6.7
38	42	CF Industries	1,287.3	34.6	100.0	Long Grove, Ill.	-7.6	nm	100.0	def	1,323.0	100.0	def
39	37	Kerr-McGee	1,262.0	5.5	30.2	Oklahoma City	-48.0	nm	def	def	1,733.0	17.0	def
40	33	Ashland <sup>f</sup>	1,170.0	-9.3	15.6	Covington, Ky.	31.0	-64.4	11.7	2.6	749.0	10.7	4.1
41	38	Noveon	1,135.9	6.2	100.0	Cleveland	121.7	-13.6	100.0	10.7	1,759.2	100.0	6.9
42	41	Albemarle	1,110.2	13.3	100.0	Baton Rouge, La.	102.9	-3.9	100.0	9.3	1,387.3	100.0	7.4
43	40	Wellman	1,109.3	9.4	100.0	Shrewsbury, N.J.	14.0	-66.1	100.0	1.3	1,117.1	100.0	1.3
44	44	Arch Chemicals	1,009.1	7.4	100.0	Norwalk, Conn.	23.8	-27.7	100.0	2.4	976.4	100.0	2.4
45	46	NL Industries	1,008.2	15.2	100.0	Houston	144.5	150.0	100.0	14.3	1,264.1	100.0	11.4
46	47	ISP	892.9	5.6	100.0	Wayne, N.J.	132.5	7.7	100.0	14.8	1,436.2	100.0	9.2
47	48	Stepan	784.9	4.9	100.0	Northfield, Ill.	9.8	-71.1	100.0	1.2	464.2	100.0	2.1
48	49	Resolution Performance Products	781.0	5.8	100.0	Houston	41.0	-59.8	100.0	5.2	856.0	100.0	4.8
49	—	Ethyl Corp.	756.3	15.2	100.0	Richmond, Va.	20.0	47.1	100.0	2.6	645.4	100.0	3.1
50	50	Sigma-Aldrich	714.0	7.5	55.0	St. Louis, Mo.	na	na	na	na	na	na	na

**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** Sales include a significant amount of nonchemical products. **e** Profits and profitability ratios are after tax. **f** Fiscal year ended Sept. 30. **g** End of fiscal year changed to Aug. 31 in 2003. Sales and profit figures for 2003 are for 11 months. **h** Fiscal year ended Nov. 29. **def** = deficit. **na** = not available. **nm** = not meaningful.



## FINANCIAL ANALYSIS

For U.S. chemical companies, many financial measures continued downward

	YEAR	PROFIT MARGIN <sup>a</sup>	RETURN ON INVESTMENT <sup>b</sup>	RETURN ON EQUITY <sup>c</sup>	DEBT AS % OF DEBT PLUS EQUITY	% OF TOTAL SALES ABROAD	SALES PER EMPLOYEE <sup>d</sup>	DIVIDENDS AS % OF EARNINGS	CAPITAL SPENDING <sup>e</sup>			SALES AS % OF ASSETS	NET PLANT AS % OF GROSS PLANT
									AS % OF SALES	AS % OF NET PLANT	R&D AS % OF SALES		
Air Products <sup>f</sup>	2003	7.4%	3.4%	12.3%	36.4%	42.3%	\$340	40.4%	9.7%	10.9%	1.9%	66.8%	48.1%
	2002	9.6	4.1	15.0	37.1	38.9	314	33.8	11.6	11.7	2.2	63.6	49.4
Albemarle	2003	7.3	3.9	12.7	26.4	57.2	370	28.8	3.7	7.8	1.7	80.0	32.8
	2002	7.2	3.7	12.5	24.0	51.7	327	32.4	3.9	7.4	1.7	82.2	34.7
Arch Chemicals	2003	1.5	1.2	4.5	39.3	49.0	349	119.2	2.0	7.2	2.3	103.3	31.0
	2002	1.4	1.1	3.8	40.1	44.0	294	140.9	3.7	10.9	2.4	100.0	37.5
Cabot <sup>f</sup>	2003	4.2	2.2	7.0	32.4	62.7	408	48.0	7.2	14.1	3.6	77.8	41.5
	2002	7.6	4.0	12.1	33.6	58.6	346	29.7	9.4	16.5	3.1	75.3	43.8
Calgon Carbon	2003	1.6	0.9	2.8	24.9	45.6	297	75.7	3.1	6.7	1.4	92.1	35.4
	2002	1.7	0.9	2.8	27.3	41.0	263	109.3	4.4	8.5	1.6	88.8	39.1
Cambrex <sup>g</sup>	2003	0.1	0.0	0.1	34.9	55.2	218	1,265.3	9.3	14.1	4.2	52.1	56.2
	2002	10.0	6.1	12.6	39.3	46.2	237	6.0	9.6	16.2	3.4	60.2	53.5
Chevron Phillips Chemical	2003	0.1	0.1	0.2	25.5	15.7	1,267	0.0	3.2	5.8	0.8	110.7	49.9
	2002	def	def	def	25.4	13.2	976	0.0	5.8	7.9	0.9	88.2	51.9
Crompton <sup>g</sup>	2003	def	def	def	71.4	50.5	396	def	4.0	11.3	2.4	86.4	48.3
	2002	2.2	2.2	27.6	86.3	50.1	375	41.2	3.9	10.6	3.2	89.7	53.1
Cytec Industries	2003	6.2	4.0	12.0	35.5	51.1	327	0.0	6.4	14.1	2.4	72.6	43.1
	2002	6.1	4.1	13.2	25.7	49.1	317	0.0	4.6	10.8	2.5	76.9	41.8
Dow Chemical	2003	3.9	2.4	14.0	56.2	60.7	703	95.6	3.4	7.7	3.0	77.9	34.8
	2002	1.1	0.6	3.8	60.5	59.2	552	419.7	5.9	11.8	3.9	69.8	36.4
DuPont	2003	6.2	3.9	17.1	30.5	55.1	333	84.3	6.3	17.3	5.0	72.9	41.0
	2002	8.3	4.2	22.1	38.4	52.4	304	70.0	5.3	9.6	5.3	69.3	39.4
Eastman Chemical	2003	1.4	0.7	8.1	66.7	47.0	387	161.9	4.0	6.7	3.0	93.1	34.7
	2002	1.6	0.8	6.7	61.8	45.7	339	159.0	8.0	11.4	3.0	84.8	38.9
Engelhard	2003	6.4	6.7	18.4	23.3	49.9	573	21.6	3.1	12.9	2.5	126.6	41.7
	2002	6.1	6.5	21.2	18.7	46.5	564	22.6	3.0	13.2	2.3	124.3	44.1
Ethyl	2003	2.7	1.9	10.3	50.3	65.1	688	0.0	1.5	6.7	3.7	117.2	23.2
	2002	1.8	1.2	7.8	62.0	67.0	596	0.0	1.9	6.4	4.6	100.0	26.6
Ferro	2003	1.7	1.7	5.4	49.5	51.9	237	90.5	2.2	5.9	2.3	92.6	55.3
	2002	2.6	2.8	8.6	48.4	50.4	201	59.7	2.5	6.7	2.0	95.2	58.9
FMC Corp.	2003	3.5	1.7	11.5	63.7	58.6	363	0.0	4.5	7.7	4.5	67.9	39.4
	2002	4.7	2.3	21.6	71.8	53.9	337	0.0	4.5	7.8	4.4	64.5	40.6
H.B. Fuller <sup>h</sup>	2003	3.4	3.4	8.5	24.0	42.8	285	29.1	3.1	11.3	1.4	127.8	42.1
	2002	2.2	2.4	6.3	26.5	40.4	273	44.0	2.9	10.2	1.4	130.7	45.7
Georgia Gulf	2003	0.9	1.0	9.2	75.8	12.3	1,206	83.1	1.7	5.2	na	168.6	45.2
	2002	2.5	2.5	24.8	79.1	11.7	1,017	33.0	1.4	3.4	na	140.6	50.4
W.R. Grace <sup>g</sup>	2003	def	def	def	0.0	59.4	314	0.0	4.4	13.2	2.6	68.9	35.0
	2002	1.2	0.9	nm	0.0	54.4	284	0.0	5.0	14.7	2.8	67.6	36.7
Great Lakes Chemical	2003	1.0	0.7	2.0	0.0	37.7	349	121.5	4.3	11.0	1.9	86.5	44.1
	2002	3.6	2.3	6.7	36.7	36.2	305	33.1	4.6	10.4	1.9	81.6	46.9
Hercules	2003	4.0	2.6	112.1	95.3	52.1	361	0.0	2.6	7.1	2.1	66.7	33.2
	2002	4.0	2.4	nm	120.0	49.0	334	0.0	2.5	6.8	2.5	63.3	32.9
IMC Global	2003	def	def	def	79.9	42.5	437	def	5.5	5.1	na	59.7	50.3
	2002	def	def	def	84.7	40.1	396	def	6.8	6.1	na	56.6	52.0
International Flavors	2003	10.5	10.5	26.9	48.2	69.3	349	29.1	3.5	12.9	8.4	82.4	50.5
	2002	10.2	10.1	32.0	63.7	68.8	314	30.9	4.5	15.7	8.0	80.6	54.8
International Specialty Products	2003	5.8	3.8	15.7	65.5	46.0	319	68.1	11.4	17.9	2.8	66.5	57.6
	2002	6.6	3.0	11.4	62.9	50.9	338	0.0	6.9	10.3	3.0	46.2	57.6
Lubrizol	2003	5.2	3.7	11.1	28.9	59.7	407	50.6	4.3	12.8	4.6	105.5	35.2
	2002	6.4	4.6	14.5	30.7	59.2	379	42.3	3.3	9.6	4.7	106.5	37.5
Lyondell Chemical	2003	def	def	def	78.2	48.3	1,201	def	7.1	10.2	1.0	49.8	75.9
	2002	def	def	def	76.9	44.6	974	def	0.7	0.9	0.9	43.8	79.0

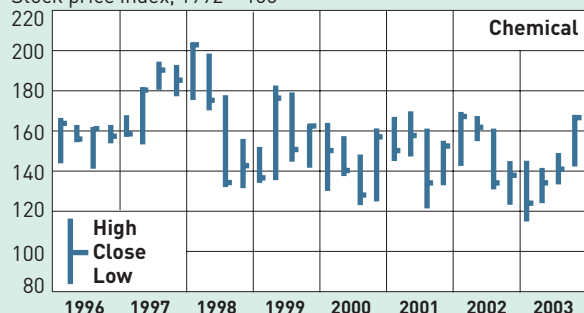
	YEAR	PROFIT MARGIN <sup>a</sup>	RETURN ON INVESTMENT <sup>b</sup>	RETURN ON EQUITY <sup>c</sup>	DEBT AS % OF DEBT PLUS EQUITY	% OF TOTAL SALES ABROAD	SALES PER EMPLOYEE <sup>d</sup>	DIVIDENDS AS % OF EARNINGS	CAPITAL SPENDING <sup>e</sup>			SALES AS % OF ASSETS	NET PLANT AS % OF GROSS PLANT
									AS % OF SALES	AS % OF NET PLANT	R&D AS % OF SALES		
Monsanto <sup>i</sup>	2003	7.6%	3.9%	7.2%	19.6%	0.0%	\$374	34.3%	4.2%	9.0%	10.3%	52.2%	49.4%
	2002	6.6	3.4	6.0	14.1	36.1	341	40.3	4.8	9.6	11.3	52.6	51.0
NL Industries	2003	11.2	5.7	46.6	64.0	85.2	341	42.5	4.2	8.1	0.8	66.1	40.7
	2002	3.6	2.2	11.8	55.0	68.9	350	506.4	3.7	8.6	0.7	78.7	41.5
Noveon <sup>g</sup>	2003	1.1	1.0	2.2	59.2	40.6	409	0.0	5.0	8.3	3.9	64.6	76.7
	2002	3.2	3.0	6.9	62.9	36.9	382	0.0	4.9	7.8	2.3	65.6	83.9
PolyOne <sup>g</sup>	2003	def	def	def	67.4	35.9	441	0.0	1.5	5.9	0.9	103.3	50.7
	2002	0.1	0.2	0.5	45.9	23.3	329	810.7	3.0	11.0	0.8	125.1	52.8
PPG Industries	2003	5.7	4.5	17.2	31.5	36.2	266	58.8	2.5	8.5	3.5	103.9	33.7
	2002	5.9	4.7	22.1	44.1	34.3	237	60.3	3.0	9.0	3.6	102.6	36.2
Praxair	2003	10.4	4.8	18.9	46.3	49.5	221	25.5	17.5	18.7	1.3	67.6	48.7
	2002	10.7	5.1	23.4	51.8	34.7	205	22.4	9.7	10.7	1.3	69.3	49.5
Quaker Chemical	2003	4.4	5.3	13.2	12.3	55.2	298	53.5	3.7	20.2	3.0	118.4	45.7
	2002	5.2	6.6	16.2	15.9	54.5	264	53.8	3.9	22.3	3.3	128.3	42.8
Rohm and Haas	2003	5.9	3.7	11.4	42.4	52.8	371	50.0	5.3	11.4	3.7	68.0	38.6
	2002	5.9	3.5	10.9	47.9	44.5	325	53.4	7.1	13.8	4.5	59.0	40.8
Sigma-Aldrich	2003	14.7	7.2	19.1	15.0	56.6	219	18.5	4.4	10.5	3.3	83.8	50.4
	2002	14.0	10.0	19.1	16.7	51.5	201	14.9	5.0	11.3	3.4	86.9	53.8
Solutia	2003	def	def	def	-35.4	39.3	386	0.0	3.2	8.6	2.2	99.3	25.9
	2002	0.2	0.1	-1.6	142.2	38.3	307	100.0	2.6	6.3	1.7	67.1	27.6
Stepan	2003	0.6	0.5	3.0	36.2	30.3	542	154.7	4.2	15.6	1.9	169.1	28.3
	2002	2.7	2.3	12.7	39.6	27.0	489	36.3	4.8	17.1	2.0	170.2	30.1
Terra Industries	2003	def	def	def	60.3	27.2	1,186	0.0	0.6	1.2	na	119.9	55.3
	2002	def	def	def	60.8	27.5	863	0.0	2.7	3.6	na	92.5	59.3
AVERAGE	2003	4.1%	2.6%	11.1%	46.0%	48.7%	\$408	71.1%	5.0%	10.7%	3.4%	78.0%	43.1%
	2002	4.4%	2.6%	11.9%	49.2%	46.7%	\$356	72.5%	5.4%	10.1%	3.7%	73.1%	42.6%

**NOTE:** Earnings from continuing operations, excluding significant nonrecurring and extraordinary items. **a** Earnings as a percentage of sales. **b** Earnings as a percentage of current assets plus gross plant. **c** Earnings as a percentage of stockholder's equity. **d** Thousands of dollars. **e** Actual spending on new facilities and purchase of land and new equipment in consolidated companies. **f** Fiscal year ends Sept. 30. **g** Earnings include significant unusual items. **h** Fiscal year ends Nov. 30. **i** Fiscal year ends Aug. 31. Sales and earnings data are unaudited. **def** = deficit. **na** = not available. **nm** = not meaningful.

## U.S. STOCKS

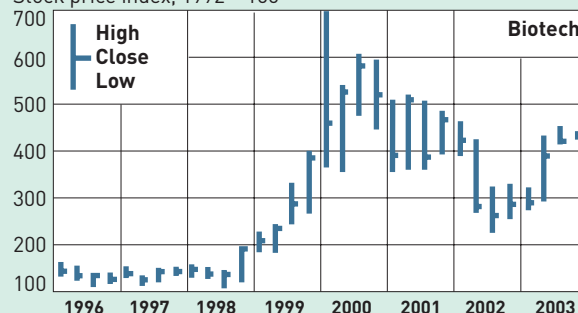
Prices trended upward through 2003 for chemical and biotech stocks

Stock price index, 1992 = 100



**NOTE:** Based on stock prices for Air Products & Chemicals, Albemarle, Arch Chemicals, Cabot, Cambrex, Crompton, Cytec Industries, Dow Chemical, DuPont, Eastman Chemical, Ferro, FMC Corp., H.B. Fuller, Georgia Gulf, W.R. Grace, Great Lakes Chemical, Hercules, IMC Global, Lubrizol, Lyondell Chemical, Monsanto, PPG Industries, Praxair, Rohm and Haas, and Stepan.

Stock price index, 1992 = 100



**NOTE:** Based on stock prices for Amgen, Biogen Idec, Celera Genomics, Cephalon, Chiron, Cytogen, Genentech, Genzyme, Gilead Sciences, Icos, MedImmune, Millennium Pharmaceuticals, Protein Design Labs, Vertex Pharmaceuticals, and Xoma.

## EXPLANATION

## Column Headings In Tables Of Company Results

**Year.** Data are for calendar year unless otherwise indicated. Data for earlier years are not restated to reflect subsequent acquisitions or divestitures.

**Net sales.** Gross sales, less discounts, allowances, and returns; generally excludes excise taxes and other operating income or revenues.

**Earnings.** Net sales and other income, less operating costs, nonoperating charges, depreciation, depletion, interest expense, deferred charges, minority interest in income, and taxes. Nonrecurring or extraordinary credits and charges have been excluded. Extraordinary charges that cannot be excluded are footnoted.

**Total assets.** Sum at year's end of current assets, investments, prepaid expenses, net plant and equipment, and other tangible assets. Excludes insofar as possible intangible assets, including goodwill, value of patents, and the like.

**Net plant and equipment.** Value at year's end of fixed assets, less accumulated depreciation, amortization, and depletion.

**Capital expenditures.** Total spending during the year for new fixed assets, such as plant, equipment, and land, and for replacement and modernization of facilities.

**Stockholders' equity.** Equity at year's end of preferred and common stockholders, including value of capital stock,

capital and earned surplus, and surplus reserves, as well as contingency and miscellaneous reserves for which no definite purpose is stated. Intangible assets are deducted insofar as possible.

**Earnings (breakdown).** Percent of sales: earnings divided by net sales. Percent of stockholders' equity: earnings divided by stockholders' equity. Dollars per share: earnings, less preferred dividends, divided by the number of shares of common stock outstanding. All figures are adjusted for stock splits, but no adjustment has been made for earlier years as a result of stock dividends or for dilution that might result from the conversion of preferred stock or debt to common stock or the exercise of stock options outstanding.

**Dividends per share.** Cash dividends paid (or declared) on each share of common stock; excludes the value of stock dividends. Adjusted for stock splits.

**Dividend yield.** Dividends per share divided by the average of the high and low prices of the common stock during the year.

**Stock price range.** High and low market prices of common stock during the year, adjusted for stock splits but not stock dividends.

**Price/earnings ratio.** Average of the high and low prices of the common stock during the year divided by earnings per share.

## U.S. COMPANY RESULTS

Sales increased, but earnings lagged among chemical companies; results were mixed among pharmaceuticals

## CHEMICALS

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCKHOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCKHOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<b>AIR PRODUCTS &amp; CHEMICALS<sup>a</sup></b>														
2003	\$6,297	\$467	\$8,259	\$5,637	\$613	\$2,609	7.4%	17.9%	\$2.21	\$0.88	2.1%	\$46.50	\$36.97	18.9
2002	5,401	519	7,771	5,378	628	2,737	9.6	19.0	2.33	0.82	1.8	53.52	36.15	19.2
2001	5,717	519	7,303	5,119	708	2,325	9.1	22.3	2.37	0.78	2.0	49.00	30.50	16.8
2000	5,467	533	7,529	5,257	768	2,079	9.7	25.6	2.46	0.74	2.4	39.13	23.00	12.6
<b>ALBEMARLE</b>														
2003	\$1,110	\$81	\$1,269	\$527	\$41	\$518	7.3%	15.6%	\$1.91	\$0.57	2.1%	\$30.70	\$22.10	13.8
2002	980	71	1,158	519	38	535	7.2	13.3	1.64	0.54	2.0	33.00	21.90	16.7
2001	917	70	1,098	530	50	562	7.6	12.4	1.50	0.52	2.5	25.69	16.50	14.1
2000	918	97	960	490	52	537	10.6	18.1	2.07	0.46	2.3	26.13	14.56	9.8
<b>ARCH CHEMICALS</b>														
2003	\$1,009	\$15	\$778	\$281	\$20	\$139	1.5%	10.8%	\$0.67	\$0.80	3.9%	\$25.80	\$15.15	30.6
2002	939	13	740	320	35	130	1.4	9.7	0.55	0.80	3.9	25.68	15.70	37.6
2001	921	3	756	332	45	192	0.4	1.7	0.15	0.80	3.8	24.70	17.40	140.3
2000	941	42	891	331	62	237	4.5	17.7	1.66	0.80	4.2	22.19	15.63	11.4
<b>CABOT<sup>a</sup></b>														
2003	\$1,795	\$75	\$2,189	\$913	\$129	\$960	4.2%	7.8%	\$1.08	\$0.54	1.8%	\$30.30	\$28.51	27.2
2002	1,557	118	1,954	885	146	864	7.6	13.7	1.65	0.52	1.7	42.24	20.50	19.0
2001	1,670	136	1,898	807	122	929	8.1	14.6	1.82	0.48	1.6	41.35	18.56	16.5
2000	1,517	114	2,113	806	137	1,026	7.5	11.1	1.55	0.44	1.6	38.44	17.94	18.2
<b>CALGON CARBON</b>														
2003	\$278	\$4	\$280	\$129	\$9	\$140	1.6%	3.2%	\$0.11	\$0.12	2.2%	\$6.89	\$4.24	50.6
2002	258	4	270	135	11	133	1.7	3.2	0.11	0.12	1.7	9.89	4.00	63.1
2001	271	8	258	144	13	110	3.0	7.4	0.21	0.20	2.6	9.50	5.63	36.0
2000	269	8	266	151	10	111	3.1	7.5	0.21	0.15	2.1	9.44	4.75	33.8

a Earnings data include unusual charges.

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<b>CAMBREX</b>														
2003 <sup>a</sup>	\$406	\$0	\$206	\$269	\$38	\$-176	0.1%	nm	\$0.01	\$0.12	0.5%	\$29.84	\$15.18	2251.0
2002	522	52	586	311	50	131	10.0	39.6%	1.96	0.12	0.4	44.30	24.10	17.4
2001	499	47	531	288	43	72	9.4	64.5	1.76	0.12	0.3	56.99	33.47	25.7
2000	493	50	520	287	39	177	10.1	28.2	1.90	0.12	0.3	49.44	31.50	21.3
<b>CHEVRON PHILLIPS CHEMICAL</b>														
2003	\$6,907	\$7	\$6,242	\$3,864	\$223	\$3,478	0.0	0.0	nm	nm	nm	nm	nm	nm
2002	5,389	-30	6,109	3,950	314	nm	def	nm	nm	nm	nm	nm	nm	nm
2001	5,871	-480	5,860	3,983	291	nm	def	nm	nm	nm	nm	nm	nm	nm
2000	3,402	-241	6,673	4,129	112	nm	def	nm	nm	nm	nm	nm	nm	nm
<b>CROMPTON</b>														
2003 <sup>a</sup>	\$2,185	\$-119	\$2,111	\$775	\$88	\$-116	def	nm	nm	\$0.20	3.5%	\$7.75	\$3.63	—
2002	2,547	55	2,257	943	100	-384	2.2%	nm	\$0.49	0.20	2.2	13.00	5.44	18.8
2001	2,719	16	2,335	1,022	137	-350	0.6	nm	0.14	0.20	2.2	12.19	6.20	65.7
2000	3,038	104	3,379	1,182	155	605	3.4	17.2%	0.91	0.20	1.9	14.19	6.94	11.6
<b>CYTEC INDUSTRIES</b>														
2003	\$1,472	\$91	\$1,616	\$663	\$94	\$346	6.2%	26.3%	\$2.34	\$0.00	—	\$38.59	\$25.98	13.8
2002	1,346	83	1,378	578	62	249	6.1	33.1	2.04	0.00	—	34.00	19.20	13.0
2001	1,387	78	1,274	598	64	261	5.6	29.8	1.86	0.00	—	39.50	19.00	15.7
2000	1,493	122	1,335	616	77	232	8.2	52.6	2.85	0.00	—	41.31	22.38	11.2
<b>DOW CHEMICAL</b>														
2003	\$32,632	\$1,285	\$38,086	\$14,217	\$1,100	\$5,370	3.9%	23.9%	\$1.38	\$1.34	4.0%	\$42.00	\$25.16	24.3
2002	27,609	290	35,760	13,797	1,623	3,824	1.1	7.6	0.317	1.34	4.4	37.00	23.66	95.7
2001	27,805	466	31,778	13,579	1,587	6,256	1.7	7.4	0.52	1.30	4.0	39.67	25.06	62.2
2000	23,008	1,513	25,758	9,190	1,349	7,299	6.6	20.7	2.22	1.16	3.3	47.17	23.00	15.8
<b>DUPONT</b>														
2003	\$26,996	\$1,669	\$32,114	\$9,892	\$1,713	\$4,856	6.2%	34.4%	\$1.67	\$1.40	3.5%	\$46.00	\$34.71	24.2
2002	24,006	2,001	30,345	13,286	1,280	4,787	8.3	41.8	2.00	1.40	3.3	49.80	35.02	21.2
2001	24,726	1,251	33,422	13,287	1,634	7,555	5.1	16.6	1.19	1.40	3.4	49.88	32.64	34.7
2000	28,268	2,878	31,061	14,182	1,925	4,934	10.2	58.3	2.73	1.40	2.5	74.00	38.19	20.5
<b>EASTMAN CHEMICAL</b>														
2003	\$5,800	\$84	\$5,880	\$3,419	\$230	\$693	1.5%	12.1%	\$1.08	\$1.76	5.2%	\$39.53	\$27.89	31.2
2002	5,320	85	5,700	3,753	427	698	1.6	12.2	1.10	1.76	4.2	49.04	35.35	38.4
2001	5,384	110	5,472	3,627	234	764	2.0	14.4	1.43	1.76	4.1	55.25	30.25	29.9
2000	5,292	299	5,938	3,925	226	1,200	5.7	24.9	3.88	1.76	4.0	54.13	34.19	11.4
<b>ENGELHARD</b>														
2003	\$3,715	\$237	\$2,433	\$881	\$114	\$786	6.4%	30.1%	\$1.86	\$0.41	1.7%	\$30.58	\$19.02	13.3
2002	3,754	228	2,563	861	113	620	6.1	36.8	1.75	0.40	1.5	33.00	21.18	15.5
2001	5,097	237	2,694	823	169	702	4.4	32.1	1.71	0.40	1.7	29.20	18.20	13.9
2000	5,543	241	2,864	768	137	572	4.3	42.1	1.88	0.40	2.3	21.50	12.56	9.1
<b>ETHYL</b>														
2003	\$756	\$21	\$583	\$174	\$12	\$137	2.7%	15.0%	\$1.22	\$0.00	—	\$22.30	\$6.47	11.8
2002	656	12	587	199	13	84	1.8	14.3	0.72	0.00	—	7.40	2.70	7.0
2001	725	10	641	216	10	66	1.4	15.1	0.60	0.00	—	2.44	0.55	2.5
2000	821	9	915	291	14	172	1.1	5.2	0.50	0.63	23.5%	4.00	1.31	5.3
<b>FERRO</b>														
2003	\$1,622	\$28	\$1,330	\$1,330	\$36	\$105	1.7%	27.1%	\$0.64	\$0.58	2.5%	\$27.47	\$19.24	36.5
2002	1,528	40	1,183	578	39	51	2.6	78.9	0.97	0.58	2.2	30.55	21.37	26.8
2001	1,501	39	1,327	625	54	-105	2.6	nm	1.04	0.58	2.5	26.50	19.41	22.1
2000	1,431	73	931	426	65	113	5.1	64.6	1.92	0.58	2.7	25.13	17.31	11.1
<b>FMC CORP.</b>														
2003	\$1,921	\$68	\$2,673	\$1,128	\$87	\$432	3.5%	15.6%	\$1.90	\$0.00	—	\$34.85	\$14.38	13.0
2002	1,853	88	2,742	1,076	84	276	4.7	31.7	2.55	0.00	—	41.92	23.46	12.8
2001	1,943	100	2,361	1,088	146	103	5.1	97.2	3.10	0.00	—	43.89	24.62	11.1
2000	3,926	212	3,251	1,616	240	305	5.4	69.5	6.72	0.00	—	76.44	46.69	9.2
<b>H.B. FULLER<sup>b</sup></b>														
2003	\$1,287	\$44	\$911	\$349	\$39	\$413	3.4%	10.5%	\$1.52	\$0.45	1.8%	\$29.57	\$19.71	16.2
2002	1,256	28	870	355	36	357	2.2	7.9	0.98	0.44	1.5	33.20	24.15	29.3
2001	1,274	45	883	371	31	350	3.5	12.8	1.54	0.43	1.8	31.18	16.32	15.4
2000	1,353	49	918	395	49	313	3.6	15.7	1.74	0.42	1.7	34.28	13.98	13.9
<b>GEORGIA GULF</b>														
2003	\$1,444	\$13	\$779	\$461	\$24	\$59	0.9%	21.3%	\$0.38	\$0.32	1.4%	\$29.75	\$16.94	61.4
2002	1,231	31	798	521	18	48	2.5	64.9	0.97	0.32	1.5	26.92	17.03	22.7
2001	1,206	-14	865	568	18	19	def	def	-0.43	0.32	1.9	19.70	13.86	—
2000	1,582	64	961	627	22	39	4.0	164.1	2.03	0.32	1.6	29.94	10.50	10.0

a Earnings data include unusual charges. b Fiscal year ends Nov. 30. def = deficit. nm = not meaningful.



YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
(Money figures in millions of dollars unless otherwise indicated)														
<b>W.R. GRACE</b>														
2003 <sup>a</sup>	\$1,981	\$-55	\$2,789	\$657	\$86	\$-269	def	nm	\$-0.84	\$0.00	—	\$5.52	\$1.48	—
2002	1,817	22	2,559	621	91	-351	1.2%	nm	0.34	0.00	—	3.75	0.99	7.0
2001	1,723	79	2,604	589	63	-255	4.6	nm	1.20	0.00	—	4.38	1.31	2.4
2000	1,597	121	2,551	602	65	-105	7.6	nm	1.78	0.00	—	14.94	1.31	4.6
<b>GREAT LAKES CHEMICAL</b>														
2003	\$1,465	\$15	\$1,424	\$570	\$63	\$474	1.0%	3.1%	\$0.30	\$0.36	1.5%	\$27.60	\$19.51	78.5
2002	1,402	50	1,541	622	65	569	3.6	8.8	0.99	0.33	1.3	29.31	21.24	25.5
2001	1,595	21	1,548	712	166	474	1.3	4.5	0.42	0.32	1.1	37.63	20.00	68.6
2000	1,671	113	1,857	751	157	673	6.8	16.8	2.16	0.32	1.0	40.44	26.50	15.5
<b>HERCULES</b>														
2003	\$1,846	\$74	\$2,060	\$677	\$48	\$-640	4.0%	nm	\$0.69	\$0.00	—	\$12.50	\$7.40	14.4
2002	1,705	69	2,027	633	43	-789	4.0	nm	0.63	0.00	—	13.70	8.45	17.6
2001	2,620	-2	2,573	903	63	-1,764	def	nm	-0.02	0.00	—	20.00	6.50	—
2000	3,152	67	2,918	1,104	187	-1,575	2.1	nm	0.62	0.62	3.1%	28.00	11.38	31.8
<b>IMC GLOBAL</b>														
2003	\$2,191	\$-38	\$3,382	\$2,358	\$120	\$238	def	def	\$-0.36	\$0.08	0.9%	\$11.27	\$5.95	—
2002	2,057	-13	3,318	2,301	140	73	def	def	-0.12	0.08	0.7	15.55	8.52	—
2001	1,959	-12	3,930	2,309	123	222	def	def	-0.11	0.08	0.7	16.12	7.99	—
2000	2,096	84	3,933	2,346	118	346	4.0%	24.3%	0.73	0.32	2.1	19.38	11.00	20.8
<b>INTERNATIONAL FLAVORS &amp; FRAGRANCES</b>														
2003	\$1,902	\$200	\$1,508	\$511	\$66	\$-57	10.5%	nm	\$2.12	\$0.63	1.9%	\$36.61	\$29.18	15.5
2002	1,800	184	1,450	521	82	-208	10.2	nm	1.92	0.60	1.9	37.45	26.05	16.5
2001	1,844	135	1,472	533	52	-272	7.3	nm	1.40	0.60	2.3	31.69	19.75	18.4
2000	1,463	150	1,733	680	61	-125	10.2	nm	1.49	1.29	4.9	37.94	14.69	17.7
<b>INTERNATIONAL SPECIALTY PRODUCTS</b>														
2003	\$893	\$51	\$1,007	\$565	\$101	\$-7	5.8%	nm	nm	nm	—	\$0.00	\$0.00	nm
2002	845	55	1,317	566	58	-28	6.6	nm	\$0.85	\$0.00	—	10.80	5.45	9.6
2001	787	1	1,670	561	102	102	0.0	0.0	0.01	0.00	—	11.25	6.63	894.0
2000	784	94	1,466	563	58	197	12.0	47.7%	1.38	0.00	—	9.31	5.00	5.2
<b>LUBRIZOL</b>														
2003	\$2,049	\$106	\$1,671	\$690	\$88	\$682	5.2%	15.5%	\$2.05	\$1.04	3.3%	\$34.40	\$29.23	15.5
2002	1,980	126	1,649	679	65	658	6.4	19.2	2.45	1.04	3.3	36.36	26.20	12.8
2001	1,845	94	1,496	644	66	607	5.1	15.5	1.84	1.04	3.4	37.69	24.13	16.8
2000	1,776	103	1,488	677	86	581	5.8	17.7	1.94	1.04	4.0	33.50	18.56	13.4
<b>LYONDELL CHEMICAL</b>														
2003	\$3,801	\$-302	\$6,553	\$2,640	\$268	\$76	def	def	nm	\$0.90	6.4%	\$17.10	\$10.96	—
2002	3,262	-133	6,318	2,369	22	49	def	def	\$-0.99	0.90	6.4	17.59	10.33	—
2001	3,226	-145	5,601	2,293	68	-353	def	nm	-1.24	0.90	6.6	17.95	9.45	—
2000	4,036	71	5,895	2,429	104	1,145	1.7%	41.0%	0.60	0.90	6.4	19.50	8.44	23.3
<b>MONSANTO</b>														
2003 <sup>b</sup>	\$4,936	\$374	\$8,122	\$2,280	\$206	\$3,817	7.6%	9.8%	\$1.42	nc	nc	na	na	na
2002	4,673	310	7,490	2,339	224	3,780	6.6	8.2	1.18	\$0.48	2.1%	\$33.29	\$13.01	19.6
2001	5,462	473	7,990	2,627	382	4,044	8.7	11.7	1.80	0.48	1.5	38.80	26.88	18.2
2000	5,493	440	8,120	2,659	582	3,735	8.0	11.8	1.70	0.09	0.4	27.38	19.75	13.9
<b>NL INDUSTRIES</b>														
2003	\$835	\$94	\$1,264	\$436	\$35	\$201	11.2%	46.6%	\$1.33	\$0.80	4.9%	\$18.25	\$14.51	12.3
2002	875	31	1,112	379	33	265	3.6	11.8	0.64	3.30	20.7	18.83	13.01	24.9
2001	835	86	1,151	330	54	387	10.3	22.1	1.72	0.80	4.5	24.31	11.60	10.4
2000	922	109	1,101	324	31	324	11.8	33.6	2.15	0.65	3.4	25.00	13.00	8.8
<b>NOVEON</b>														
2003 <sup>a</sup>	\$1,136	\$13	\$1,213	\$683	\$57	\$39	1.1%	33.2%	na	\$0.00	—	na	na	nm
2002	1,069	35	1,092	671	52	-38	3.2	nm	na	0.00	—	na	na	nm
2001	1,063	-15	1,123	673	36	-43	def	nm	na	0.00	—	na	na	nm
2000	1,168	50	993	563	64	545	4.3	9.2	na	0.00	—	na	na	nm
<b>POLYONE</b>														
2003 <sup>a</sup>	\$1,965	\$-95	\$1,547	\$486	\$29	\$13	def	nm	-\$1.05	\$0.00	—	\$6.95	\$3.08	—
2002	2,498	3	1,521	682	75	103	0.1%	2.7%	0.03	0.25	3.0%	13.40	3.03	273.8
2001	2,655	-10	1,524	684	80	176	def	nm	-0.11	0.25	3.1	10.70	5.69	—
2000	1,888	25	1,921	704	63	288	1.3	8.7	0.41	0.25	2.3	17.25	4.56	26.6
<b>PPG INDUSTRIES</b>														
2003	\$8,756	\$500	\$6,772	\$2,566	\$217	\$1,259	5.7%	39.7%	\$2.92	\$1.73	3.2%	\$64.42	\$42.61	18.3
2002	8,067	476	6,302	2,632	238	589	5.9	80.8	2.80	1.70	3.3	62.84	41.41	18.6
2001	8,169	458	6,910	2,752	291	1,538	5.6	29.8	2.71	1.68	3.4	59.75	38.99	18.2
2000	8,629	658	7,477	2,941	561	1,449	7.6	45.4	3.79	1.60	3.2	65.06	36.00	13.3

a Earnings data include unusual charges. b Fiscal year changed to end Aug. 31. Thus, prior years are not comparable. Sales and earnings data for 2003 are unaudited. def = deficit. na = not available. nc = not comparable. nm = not meaningful.

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<b>PRAXAIR</b>														
2003 <sup>a</sup>	\$5,613	\$585	\$7,174	\$5,252	\$983	\$1,957	10.4%	29.9%	\$1.77	\$0.46	1.5%	\$38.26	\$25.02	17.9
2002	5,128	548	6,366	4,666	498	1,305	10.7	42.0	1.68	0.38	1.4	30.56	22.28	15.7
2001	5,158	489	6,535	4,817	595	1,297	9.5	37.7	1.60	0.34	1.5	27.96	18.30	14.5
2000	5,043	480	6,665	4,771	704	1,260	9.5	38.1	1.58	0.31	1.4	27.25	15.85	13.6
<b>QUAKER CHEMICAL</b>														
2003	\$340	\$15	\$244	\$62	\$13	\$70	4.4%	21.3%	\$1.52	\$0.84	3.4%	\$30.75	\$18.07	16.1
2002	275	14	186	49	11	60	5.2	23.7	1.51	0.84	3.8	25.50	18.22	14.5
2001	251	14	162	38	8	65	5.4	21.1	1.49	0.82	4.2	22.30	17.00	13.2
2000	268	27	171	42	6	68	10.0	39.4	2.06	0.80	4.9	19.25	13.38	7.9
<b>ROHM AND HAAS</b>														
2003	\$6,421	\$382	\$6,118	\$2,966	\$339	\$30	5.9%	127.3%	\$1.72	\$0.86	2.5%	\$43.05	\$26.26	20.1
2002	5,727	339	6,228	2,954	407	-359	5.9	nm	1.53	0.82	2.3	42.60	30.19	23.8
2001	5,666	189	5,934	2,916	401	-601	3.3	nm	0.84	0.80	2.5	38.70	24.90	37.9
2000	6,879	381	6,671	3,339	391	-943	5.5	nm	1.73	0.78	2.1	49.44	24.38	21.3
<b>SIGMA-ALDRICH</b>														
2003	\$1,298	\$190	\$1,435	\$547	\$58	\$886	14.7%	21.5%	\$2.68	\$0.50	1.0%	\$57.46	\$41.17	18.4
2002	1,207	169	1,259	536	61	751	14.0	22.5	2.30	0.35	0.8	52.80	38.16	19.8
2001	1,179	141	1,312	542	110	682	12.0	20.7	1.87	0.33	0.8	51.20	36.17	23.4
2000	1,096	139	1,230	493	69	741	12.7	18.8	1.66	0.32	1.0	40.88	20.19	18.4
<b>SOLUTIA</b>														
2003	\$2,430	\$-78	\$2,306	\$909	\$78	\$-1,265	def	nm	\$-1.10	\$0.00	—	\$4.89	\$0.23	—
2002	2,241	4	3,132	930	59	-459	0.2%	nm	0.04	0.04	0.5%	13.20	2.81	200.1
2001	2,817	20	2,798	1,143	94	-723	0.7%	nm	0.19	0.04	0.3	15.07	11.25	69.3
2000	3,185	121	2,943	1,205	221	-672	3.8	nm	1.14	0.04	0.3	17.19	10.38	12.1
<b>STEPAN</b>														
2003	\$785	\$5	\$445	\$211	\$33	\$143	0.6%	3.4%	\$0.45	\$0.76	3.2%	\$26.80	\$21.55	53.7
2002	749	20	420	211	36	139	2.7	14.5	2.05	0.74	2.8	29.21	23.55	12.9
2001	712	19	434	212	34	158	2.7	12.1	1.88	0.71	3.2	26.38	17.80	11.8
2000	699	15	415	199	28	154	2.1	9.7	1.47	0.66	3.0	25.00	18.50	14.8
<b>TERRA INDUSTRIES</b>														
2003	\$1,349	\$-22	\$1,125	\$708	\$9	\$265	def	nm	\$-0.28	\$0.00	—	\$3.55	\$0.97	—
2002	1,044	-36	1,128	791	28	258	def	nm	-0.48	0.00	—	3.97	1.45	—
2001	1,037	-80	1,336	825	15	501	def	nm	-1.06	0.00	—	4.75	1.90	—
2000	1,063	-10	1,513	903	12	611	def	nm	-0.14	0.00	—	3.88	1.06	—

## PHARMACEUTICALS

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<b>ABBOTT LABORATORIES</b>														
2003	\$19,681	\$2,753	\$18,176	\$6,282	\$1,247	\$4,533	14.0%	60.7%	\$1.75	\$1.04	2.6%	\$47.15	\$33.75	23.1
2002	17,685	3,243	16,607	5,828	1,296	3,013	18.3	107.6	2.06	0.94	2.1	58.00	29.80	21.3
2001	16,285	2,943	16,002	5,552	1,164	1,765	18.1	166.7	1.88	0.84	1.7	57.17	42.00	26.4
2000	13,746	2,786	13,728	4,817	1,036	7,016	20.3	39.7	1.78	0.76	1.8	56.25	29.38	24.1
<b>BAXTER INTERNATIONAL</b>														
2003	\$8,916	\$922	\$11,520	\$4,585	\$789	\$1,064	10.3%	86.7%	\$1.52	\$0.58	2.3%	\$31.20	\$18.56	16.4
2002	8,110	1,236	10,458	3,907	848	919	15.2	134.5	2.00	0.58	1.4	59.60	24.22	21.0
2001	7,356	675	8,645	3,306	759	2,059	9.2	32.8	1.11	0.58	1.2	55.55	40.75	43.4
2000	6,697	754	7,494	2,807	625	1,420	11.3	53.1	1.26	0.58	0.8	88.62	51.88	55.8
<b>BRISTOL-MYERS SQUIBB</b>														
2003	\$20,849	\$3,106	\$20,903	\$5,712	\$937	\$3,218	14.9%	96.5%	\$1.60	\$1.12	4.5%	\$28.86	\$21.13	15.6
2002	18,119	2,034	18,106	5,321	997	2,199	11.2	92.5	1.05	1.12	3.1	51.50	20.55	34.3
2001	17,987	2,043	19,610	4,879	1,023	3,289	11.4	62.1	1.04	1.11	1.8	71.50	49.00	57.9
2000	17,539	3,830	15,758	4,548	589	7,744	21.8	49.5	1.92	1.01	1.7	73.94	43.50	30.6
<b>ELI LILLY</b>														
2003	\$12,583	\$2,561	\$20,286	\$6,539	\$1,707	\$8,372	20.4%	30.6%	\$2.37	\$1.36	2.1%	\$73.89	\$53.70	26.9
2002	11,078	2,763	19,042	5,293	1,131	8,274	24.9	33.4	2.55	1.24	1.9	80.28	47.91	25.1
2001	11,543	2,809	16,144	4,532	884	6,814	24.3	41.2	2.61	1.12	1.4	90.23	71.83	31.0
2000	10,862	2,905	14,340	4,177	678	5,696	26.7	51.0	2.65	1.04	1.3	108.24	54.34	30.7

<sup>a</sup> Stock split (2 for 1) in 2003. **def** = deficit. **nm** = not meaningful.

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND, YIELD, % OF PRICE	STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<b>JOHNSON &amp; JOHNSON</b>														
2003	\$41,862	\$4,684	\$36,724	\$9,846	\$2,262	\$11,330	11.2%	41.3%	\$2.40	\$0.93	1.7%	\$59.08	\$48.05	22.3
2002	36,298	6,811	31,310	8,710	2,099	13,451	18.8	50.6	2.23	0.80	1.5	65.89	41.40	24.1
2001	33,004	5,884	29,411	7,719	1,731	15,156	17.8	38.8	1.91	0.70	1.4	60.97	40.25	26.5
2000	29,139	4,800	24,065	6,971	1,646	11,552	16.5	41.6	1.70	0.62	1.4	52.97	33.07	25.3
<b>MERCK</b>														
2003 <sup>a</sup>	\$22,486	\$6,590	\$38,638	\$14,169	\$1,916	\$13,627	29.3%	48.4%	\$2.92	\$1.45	2.8%	\$63.50	\$40.57	17.8
2002	51,790	7,150	40,320	14,196	2,370	10,960	13.8	65.2	3.14	1.41	2.7	64.50	38.50	16.4
2001	47,716	7,282	36,530	13,103	2,725	8,574	15.3	84.9	3.14	1.37	1.8	95.25	56.80	24.2
2000	40,363	6,822	32,536	11,482	2,728	7,458	16.9	91.5	2.90	1.21	1.6	96.69	52.00	25.6
<b>PFIZER</b>														
2003 <sup>b</sup>	\$45,188	\$12,722	\$58,119	\$18,287	\$2,641	\$6,721	28.2%	189.3%	\$1.73	\$0.60	1.9%	\$36.92	\$26.95	18.5
2002	32,373	9,946	45,156	10,712	1,758	18,750	30.7	53.0	1.59	0.52	1.5	42.46	25.13	21.3
2001	32,259	8,363	37,431	10,415	2,203	16,571	25.9	50.5	1.31	0.44	1.1	46.75	34.00	30.8
2000	29,574	6,487	31,719	9,425	2,191	14,285	21.9	45.4	1.02	0.36	0.9	49.00	30.00	38.7
<b>SCHERING-PLOUGH</b>														
2003	\$8,334	\$507	\$14,483	\$4,527	\$701	\$6,718	6.1%	7.5%	\$0.35	\$0.57	3.0%	\$23.68	\$14.52	54.6
2002	10,180	2,089	13,475	4,236	770	7,481	20.5	27.9	1.42	0.67	2.5	36.00	17.30	18.8
2001	9,802	2,326	11,514	3,814	759	6,465	23.7	36.0	1.58	0.62	1.4	54.25	34.20	28.0
2000	9,815	2,423	10,178	3,362	763	5,492	24.7	44.1	1.64	0.55	1.2	59.13	30.50	27.3
<b>WYETH</b>														
2003	\$15,851	\$3,259	\$27,081	\$8,661	\$1,906	\$5,343	20.6%	61.0%	\$2.44	\$0.92	2.2%	\$49.95	\$32.75	16.9
2002	14,584	2,963	22,103	7,236	1,932	4,264	20.3	69.5	2.22	0.92	1.9	66.51	28.25	21.3
2001	14,129	2,900	19,116	6,282	1,924	221	20.5	nm	2.18	0.92	1.6	63.80	52.00	26.6
2000	13,263	2,514	17,040	5,035	1,682	-1,234	19.0	nm	1.90	0.92	1.8	65.25	39.38	27.5

## BIOPHARMACEUTICALS

YEAR	NET SALES	EARNINGS	R&D SPENDING	R&D AS % OF SALES	TOTAL ASSETS	NET PLANT AND EQUIPMENT	STOCK-HOLDERS' EQUITY	EARNINGS			STOCK PRICE RANGE, \$ PER SHARE		PRICE/EARNINGS RATIO
								% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE	HIGH	LOW	
<b>AMGEN</b>													
2003	\$7,868	\$2,260	\$2,260	28.7%	\$26,176	\$3,799	\$5,218	28.7%	43.3%	\$1.69	\$71.54	\$48.88	35.6
2002	4,991	1,662	1,117	22.4	9,783	2,814	3,613	33.3	46.0	1.39	62.48	31.07	33.7
2001	3,511	1,120	865	24.6	6,443	1,946	5,217	31.9	21.5	1.03	74.19	51.51	61.0
2000	3,202	1,139	845	26.4	5,400	1,782	4,315	35.6	26.4	1.05	78.00	51.31	61.6
<b>BIOGEN IDEC<sup>c</sup></b>													
2003	\$1,852	\$428	\$546	29.5%	\$9,504	\$1,253	\$2,263	23.1%	18.9%	\$1.22	\$42.15	\$27.80	28.7
2002	1,034	199	368	35.5	1,991	738	1,579	19.2	12.6	1.31	57.42	28.89	32.9
2001	972	273	315	32.4	1,704	556	1,332	28.1	20.5	1.78	74.50	49.45	34.8
2000	761	334	303	39.8	1,418	400	1,092	43.9	30.6	2.16	119.50	49.75	39.2
<b>CHIRON</b>													
2003	\$1,346	\$181	\$410	30.5%	\$4,195	\$690	\$1,170	13.5%	15.5%	\$1.15	\$56.98	\$34.41	39.7
2002	914	248	326	35.7	2,574	374	1,689	27.1	14.7	1.29	48.68	27.41	29.5
2001	772	175	344	44.6	2,494	313	1,553	22.6	11.3	0.90	56.80	37.06	52.1
2000	627	178	299	47.7	2,053	313	1,476	28.4	12.1	0.89	67.56	34.13	57.1
<b>GENENTECH</b>													
2003	\$2,621	\$635	\$722	27.5%	\$8,736	\$1,618	\$4,395	24.2%	14.4%	\$1.20	\$95.35	\$31.53	52.9
2002	2,164	484	624	28.8	4,516	1,069	3,077	22.4	15.7	0.92	55.15	25.10	43.6
2001	1,743	405	526	30.2	4,719	866	3,504	23.2	11.5	0.76	84.00	37.99	80.3
2000	1,278	320	490	38.3	3,976	753	2,938	25.0	10.9	0.60	117.25	46.13	136.2
<b>GENZYME</b>													
2003	\$1,564	\$-68	\$335	21.4%	\$5,005	\$1,151	\$1,419	def	def	\$0.42 <sup>d</sup>	\$52.45 <sup>d</sup>	\$28.45 <sup>d</sup>	96.3 <sup>d</sup>
2002	1,200	85	309	25.7	2,757	802	1,371	7.1%	6.2%	0.81 <sup>d</sup>	58.55 <sup>d</sup>	15.64 <sup>d</sup>	45.8 <sup>d</sup>
2001	1,110	255	264	23.8	2,429	635	1,103	22.9	23.1	1.20 <sup>d</sup>	64.00 <sup>d</sup>	34.34 <sup>d</sup>	41.0 <sup>d</sup>
2000	812	209	169	20.8	1,778	504	635	25.7	32.9	1.14 <sup>d</sup>	51.88 <sup>d</sup>	19.84 <sup>d</sup>	31.6 <sup>d</sup>
<b>MEDIMMUNE</b>													
2003	\$993	\$192	\$156	15.7%	\$2,795	\$274	\$1,589	19.3%	12.1%	\$0.76	\$42.09	\$22.79	42.7
2002	848	107	144	17.0	2,059	184	1,548	12.6	6.9	0.42	48.35	20.45	81.9
2001	619	149	83	13.4	1,237	95	1,044	24.1	14.3	0.68	54.56	27.63	60.4
2000	540	111	66	12.2	1,017	86	844	20.6	13.2	0.50	86.13	42.00	128.1

a Spun off Medco Health Solutions in August. b Acquired Pharmacia in April. c Biogen and Iddec Pharmaceuticals merged in November 2003. Data for years prior to 2003 are for Biogen. d For general division only. def = deficit. nm = not meaningful.

## CANADA COMPANY RESULTS

Sales jumped dramatically for the major Canadian companies

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
(Money figures in millions of dollars unless otherwise indicated)														
<b>AGRIUM</b>														
2003	\$2,630	\$-21	\$2,273	\$1,260	\$99	\$821	def	def	\$-0.25	\$0.11	0.9%	C\$21.47	C\$14.28	—
2002	2,198	0	2,169	1,400	52	764	0.0%	0.0%	0.00	0.11	1.0	17.85	12.66	—
2001	2,063	-45	2,329	1,494	164	698	def	def	-0.39	0.11	0.9	21.00	14.00	—
2000	1,873	82	2,322	1,484	179	819	4.4	10	0.62	0.11	1.0	21.95	10.00	18.4
<b>METHANEX</b>														
2003	\$2,630	\$-21	\$2,273	\$1,260	\$99	\$821	13.4%	26.1%	\$1.52	\$0.47	4.6%	C\$16.27	C\$12.40	6.7
2002	1,009	112	1,784	980	160	869	11.1	12.9	0.89	0.10	1.2	14.70	8.60	9.3
2001	1,149	82	1,652	1,032	91	894	7.1	9.2	0.53	0.00	—	13.95	7.10	14.2
2000	1,061	145	1,754	1,046	19	996	13.7	14.6	0.83	0.00	—	9.90	2.33	5.3
<b>NOVA CHEMICALS</b>														
2003	\$3,949	\$-118	\$4,413	\$3,336	\$130	\$1890	def	def	\$-1.36	\$0.29	1.4%	C\$35.05	C\$24.65	—
2002	3,091	-106	4,154	3,033	71	1,561	def	def	-1.24	0.29	1.2	40.15	28.48	—
2001	3,194	-202	4,389	3,159	168	1,614	def	def	-2.37	0.29	1.3	37.90	23.25	—
2000	3,916	287	4,754	3,296	440	1,926	7.3%	14.9%	3.06	0.29	1.4	37.20	22.00	6.9
<b>POTASH CORP.</b>														
2003	\$2,466	\$77	\$4,470	\$3,108	\$151	\$1,877	3.1%	4.1%	\$1.46	\$1.00	1.4%	C\$115.50	C\$81.50	48.1
2002	1,914	54	4,589	3,270	212	1,996	2.8	2.7	1.03	1.00	1.5	109.02	79.38	65.3
2001	2,073	121	4,500	3,246	514	1,990	5.8	6.1	2.32	1.00	1.4	115.55	81.00	30.2
2000	2,232	222	4,039	2,910	186	1,906	10.0	11.7	4.22	0.99	1.5	120.40	61.00	15.3

**NOTE:** Stock price ratios were converted on the basis of the 2003 average exchange rate of \$1.00 U.S. = \$1.401 Canadian (C\$). **def** = deficit.

## EUROPE COMPANY RESULTS

Tough year took its toll on corporate earnings

### CHEMICALS

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
(Money figures in millions of dollars unless otherwise indicated)														
<b>BELGIUM</b>														
Solvay														
2003	\$8,551	\$448	\$10,684	\$3,914	\$628	\$3,017	5.2%	14.9%	\$5.41	\$2.04	3.1%	€69.30	€47.60	12.2
2002	8,959	561	10,348	4,316	707	3,267	6.3	17.2	6.26	2.04	2.6	78.00	58.70	12.4
2001	9,872	456	12,447	4,835	816	3,389	4.6	13.5	5.34	1.92	2.4	67.65	72.65	14.9
2000	10,028	490	10,385	4,417	919	4,224	4.9	11.6	5.88	1.92	2.5	83.90	53.05	13.2
<b>FINLAND</b>														
Kemira														
2003	\$3,098	\$83	\$2,823	\$1,229	\$267	\$1,208	2.7%	6.9%	\$0.70	\$0.37	4.4%	€9.30	€5.75	12.1
2002	2,956	9	2,819	1,213	275	1,195	0.3	0.8	0.08	0.34	4.2	8.50	5.75	101.8
2001	2,777	80	2,772	1,220	337	1,262	2.9	6.3	0.66	0.34	4.3	8.75	5.30	12.1
2000	2,403	52	2,725	1,188	247	1,270	2.1	4.1	0.83	0.34	5.1	6.80	4.92	8.0
<b>FRANCE</b>														
Air Liquide														
2003	\$9,498	\$821	\$12,452	\$6,708	\$828	\$5,747	8.6%	14.3%	\$8.33	\$3.62	2.6%	€140.90	€105.00	16.7
2002	8,939	795	12,400	6,963	803	5,905	8.9	13.5	8.01	3.62	2.4	160.00	112.00	19.2
2001	9,423	794	13,640	7,784	871	6,057	8.4	13.1	7.91	3.62	2.4	154.76	115.56	19.3
2000	9,165	738	13,022	7,699	1,030	5,981	8.0	12.3	7.24	3.39	2.2	155.56	111.73	20.9

## FINANCES

YEAR	NET		TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
	SALES	EARNINGS					% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
<i>(Money figures in millions of dollars unless otherwise indicated)</i>														
<b>Rhodia</b>														
2003	\$6,170	\$-847	\$7,388	\$2,858	\$264	\$285	nm	nm	\$-8.63	\$0.00	nm	€8.44	€2.91	nm
2002	7,487	-5	8,698	3,104	423	2,076	nm	nm	-0.02	0.21	2.1%	12.40	5.75	nm
2001	8,236	-241	10,198	4,029	547	2,565	nm	nm	-1.35	0.14	1.1	15.95	5.60	-9.1
2000	8,395	244	10,765	4,253	569	2,934	2.9%	8.3%	1.39	0.45	2.3	24.19	10.50	14.1
<b>GERMANY</b>														
<b>BASF</b>														
2003	\$38,318	\$1,030	\$33,729	\$14,789	\$2,595	\$17,967	2.7%	5.7%	\$1.83	\$1.58	3.8%	€44.58	€28.41	22.5
2002	36,452	1,809	35,780	15,552	3,029	19,170	5.0	9.4	2.94	1.58	3.4	49.80	32.90	15.9
2001	36,773	-297	37,263	16,056	3,436	19,826	nm	-1.5	11.00	1.47	3.2	50.45	31.00	4.2
2000	40,673	1,403	38,492	15,435	4,108	16,175	3.4	8.7	2.29	1.47	2.9	50.68	39.40	22.3
<b>Bayer</b>														
2003	\$32,324	\$-1,540	\$42,369	\$11,244	\$1,968	\$13,819	nm	nm	\$-2.10	\$0.57	3.0%	€23.22	€10.28	nm
2002	33,520	1,203	47,174	14,071	2,696	17,352	3.6%	6.9%	1.64	1.02	3.1	40.80	17.45	20.1
2001	32,743	1,093	41,910	15,324	2,961	19,147	3.3	5.7	1.49	1.02	2.2	57.80	24.05	31.0
2000	35,044	2,246	41,244	15,100	2,995	18,262	6.4	12.3	2.82	1.58	2.9	56.25	38.75	19.1
<b>Celanese</b>														
2003	\$4,611	\$148	\$6,109	\$1,532	\$209	\$2,317	3.2%	6.4%	\$3.00	\$0.50	1.9%	€33.50	€12.51	8.7
2002	4,894	212	6,933	1,834	247	2,269	4.3	9.3	4.21	0.45	1.8	27.42	15.96	5.8
2001	5,767	-436	7,993	2,158	246	2,501	nm	nm	-8.66	0.45	1.9	27.50	15.30	-2.8
2000	5,892	66	8,647	2,289	247	3,217	1.1	2.0	1.23	0.12	0.5	24.55	16.28	18.7
<b>Degussa</b>														
2003	\$12,930	\$-180	\$15,846	\$5,722	\$890	\$5,677	nm	nm	\$-0.87	\$1.24	4.4%	€29.47	€20.62	nm
2002	13,312	257	17,182	5,953	1,087	6,426	1.9%	4.0%	1.24	1.24	3.6	37.67	24.00	28.0
2001	13,422	476	20,511	6,627	1,279	6,745	3.5	7.1	2.32	1.24	3.7	39.60	20.20	14.6
2000	14,465	459	21,677	6,648	1,100	6,648	3.2	6.9	3.28	1.24	3.1	42.90	28.35	12.3
<b>Merck</b>														
2003	\$8,149	\$236	\$7,900	\$2,286	\$318	\$2,674	2.9%	8.8%	\$1.30	\$0.91	3.0%	€34.06	€20.01	23.5
2002	8,456	230	8,499	2,415	427	2,324	2.7	9.9	1.34	1.13	3.4	40.55	18.03	24.8
2001	8,518	712	9,341	2,434	532	2,644	8.4	26.9	4.14	1.07	2.2	49.70	37.55	11.9
2000	7,627	279	9,331	2,227	483	2,459	3.7	11.4	1.63	1.02	2.4	50.00	26.30	26.5
<b>NETHERLANDS</b>														
<b>Akzo Nobel</b>														
2003	\$14,767	\$681	\$13,526	\$4,489	\$657	\$2,831	4.6%	24.1%	\$2.39	\$1.36	5.0%	€32.44	€16.00	11.5
2002	15,843	1,009	14,471	4,981	780	2,529	6.4	39.9	3.53	1.36	2.9	54.50	27.25	13.1
2001	15,965	1,052	14,625	5,169	930	3,413	6.6	30.8	3.68	1.36	2.6	57.85	33.73	14.1
2000	15,844	1,082	14,378	5,093	820	3,228	6.8	33.5	3.78	1.36	2.5	59.15	37.30	14.4
<b>DSM</b>														
2003	\$6,846	\$157	\$10,636	\$2,727	\$490	\$5,565	2.3%	2.8%	\$1.40	\$1.98	4.6%	€45.00	€31.29	30.8
2002	7,541	395	10,179	3,264	606	5,818	5.2	6.8	13.67	1.98	3.9	51.25	37.90	3.7
2001	9,018	418	9,703	4,081	738	4,796	4.6	8.7	16.41	1.98	4.7	45.15	28.80	2.6
2000	9,154	656	8,879	3,542	696	3,440	7.2	19.1	6.56	1.98	5.0	40.10	30.00	6.0
<b>SWITZERLAND</b>														
<b>Ciba Specialty Chemicals</b>														
2003	\$4,940	\$256	\$8,249	\$2,202	\$173	\$3,155	5.2%	8.1%	\$3.74	\$0.00	nm	CHF98.65	CHF72.13	17.0
2002	5,266	302	8,765	2,376	186	3,236	5.7	9.3	4.40	0.00	nm	128.00	89.75	18.4
2001	5,476	329	8,710	2,650	193	2,905	6.0	11.3	4.97	1.49	2.1%	115.75	75.00	14.3
2000	5,873	387	8,997	2,815	185	2,790	6.6	13.9	5.82	1.49	1.8	122.50	94.25	13.8
<b>Clariant</b>														
2003	\$6,330	\$120	\$5,948	\$2,063	\$224	\$874	1.9%	13.7%	\$0.80	\$0.15	1.2%	CHF24.20	CHF9.53	15.6
2002	6,935	-482	6,355	2,271	252	679	-6.9	-70.9	-3.20	0.00	nm	40.30	21.50	nm
2001 <sup>a</sup>	7,337	198	7,845	2,790	375	1,455	2.7	13.6	-6.05	0.22	0.8	59.40	16.50	nm
2000	7,866	375	9,623	3,285	398	2,651	4.8	14.2	25.38	0.82	1.7	79.90	46.10	1.8
<b>Givaudan</b>														
2003	\$2,018	\$161	\$3,380	\$752	\$117	\$1,922	8.0%	8.4%	\$20.09	\$6.62	1.7%	CHF650.00	CHF427.00	19.9
2002	1,988	190	3,390	748	68	2,056	9.6	9.3	22.34	6.02	1.4	683.00	500.00	19.7
2001	1,783	204	3,210	746	85	2,072	11.4	9.8	24.47	—	nm	—	—	nm
2000 <sup>b</sup>	1,751	153	3,059	na	97	1,994	8.7	7.7	23.00	—	nm	—	—	nm



YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	

(Money figures in millions of dollars unless otherwise indicated)

#### Lonza

2003	\$1,666	\$147	\$2,462	\$1,614	\$315	\$918	8.8%	16.0%	\$3.11	\$0.97	1.8%	CHF86.35	CHF59.75	17.5
2002	1,885	164	2,432	1,301	260	918	8.7	17.9	3.38	1.41	1.9	120.50	79.90	22.0
2001 <sup>a</sup>	1,874	299	2,961	1,321	201	1,179	15.9	25.3	5.52	1.41	1.9	109.10	88.20	13.3
2000	1,266	230	2,541	2,007	110	1,634	18.1	14.1	36.33	11.15	1.6	1,018.00	810.00	18.7

#### Syngenta

2003	\$4,889	\$270	\$8,150	\$1,765	\$164	\$3,756	5.5%	7.2%	\$2.65	\$1.26	2.4%	CHF87.85	CHF55.10	20.1
2002	4,606	197	8,191	1,717	123	3,233	4.3	6.1	1.94	0.63	0.9	109.72	72.00	34.8
2001 <sup>c</sup>	4,700	166	8,427	1,745	188	3,037	3.5	5.5	1.64	0.59	1.0	87.00	75.00	36.8
2000 <sup>b</sup>	3,624	80	9,533	1,969	138	3,129	2.2	2.6	5.66	—	nm	—	—	nm

#### UNITED KINGDOM

##### BOC International

2003	\$6,950	\$426	\$8,059	\$4,760	\$459	\$2,835	6.1%	15.0%	\$0.87	\$0.64	4.8%	£9.47	£6.70	15.3
2002	6,566	332	5,956	4,946	578	2,752	5.1	12.1	0.92	0.62	3.9	11.08	8.36	17.4
2001	6,797	556	5,999	5,178	577	3,409	8.2	16.3	0.95	0.60	3.9	11.14	7.80	16.3
2000	6,338	533	6,084	5,383	677	3,716	8.4	14.4	1.05	0.57	3.1	13.76	8.71	17.6

##### ICI

2003	\$9,558	\$358	\$8,510	\$3,894	\$252	\$4,873	3.7%	7.3%	\$0.30	\$0.10	3.9%	€2.41	€0.82	8.7
2002	10,009	392	8,991	3,204	351	815	3.9	48.1	0.39	0.12	2.4	4.30	2.03	13.4
2001	10,499	407	10,293	3,572	389	-595	3.9	-68.4	0.49	0.22	3.2	5.57	2.83	14.1
2000	10,483	451	11,535	3,919	384	-407	4.3	-110.8	0.53	0.43	5.2	6.74	3.54	15.7

#### PHARMACEUTICALS

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	CAPITAL EXPENDITURES	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
							% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	

(Money figures in millions of dollars unless otherwise indicated)

#### FRANCE

##### Aventis

2003	\$20,158	\$2,151	\$31,995	\$4,673	\$946	\$11,806	10.7%	18.2%	\$2.74	\$0.93	1.8%	€54.55	€37.50	19.0
2002	23,334	2,462	35,159	5,041	1,132	12,826	10.6	19.2	2.99	0.79	1.0	85.89	47.60	25.3
2001	25,958	1,848	44,393	6,495	1,409	13,602	7.1	13.6	2.16	0.66	0.7	94.75	65.20	41.9
2000	25,237	-33	47,730	8,484	1,776	11,950	def	def	-0.21	0.57	0.7	93.70	47.82	—

#### SWITZERLAND

##### Novartis

2003	\$24,864	\$5,016	\$49,317	\$7,597	\$1,318	\$30,429	20.2%	16.5%	\$1.51	\$0.74	2.0%	CHF56.15	CHF46.05	25.2
2002	24,091	5,436	46,976	6,321	1,235	29,495	22.6	18.4	2.16	0.71	1.6	69.10	49.20	20.3
2001 <sup>d</sup>	23,519	5,221	49,622	6,734	1,004	31,400	22.2	16.6	2.03	0.67	1.4	74.15	54.91	23.6
2000	26,613	5,359	43,256	6,712	1,006	27,399	20.1	19.6	81.76	25.27	55.0	73.90	49.72	0.6

##### Roche

2003	\$23,205	\$2,281	\$44,214	\$9,286	\$1,684	\$17,519	9.8%	13.0%	\$2.68	\$1.23	1.1%	CHF185.00	CHF121.00	42.4
2002	22,094	-2,992	47,566	9,985	1,519	15,468	def	def	-3.57	1.08	0.9	195.00	130.50	—
2001 <sup>d</sup>	21,676	2,748	55,958	11,188	1,435	21,535	12.7	12.8	3.25	0.97	0.8	201.00	114.00	36.0
2000	21,311	6,427	51,684	10,246	1,623	20,520	30.2	31.3	761.11	85.48	0.5	26,375.00	16,800.00	21.1

#### UNITED KINGDOM

##### AstraZeneca

2003	\$18,849	\$3,036	\$23,573	\$7,536	\$1,239	\$13,178	16.1%	23.0%	\$1.78	\$0.80	1.6%	£49.47	£29.98	22.3
2002	17,841	2,836	21,576	9,404	1,340	11,172	15.9	25.4	1.84	0.70	1.9	36.25	17.99	14.7
2001	16,222	2,906	18,496	8,109	1,385	9,586	17.9	30.3	1.73	0.70	2.0	35.55	28.80	18.6
2000	17,882	2,277	18,857	7,908	1,347	9,389	12.7	23.0	1.50	0.70	1.9	36.00	19.26	18.4

##### GlaxoSmithKline

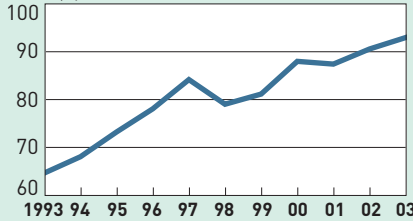
2003	\$35,038	\$7,327	\$25,129	\$10,525	\$1,422	\$12,615	20.9%	58.1%	\$1.26	\$0.67	3.4%	£13.90	£10.00	15.5
2002	34,663	7,561	22,091	10,865	1,678	10,754	21.8	70.3	1.28	0.65	2.8	17.80	10.57	18.1
2001	33,481	7,162	21,101	11,185	1,819	12,076	21.4	59.3	1.18	0.64	2.1	20.32	16.26	25.3
2000	29,543	6,041	20,436	10,854	1,664	12,601	20.4	47.9	1.00	0.62	2.1	21.10	14.40	29.1

**NOTE:** € = euro, CHF = Swiss franc, £ = British pound. Monetary statistics for all years were converted from local currencies to U.S. dollars on the basis of the 2003 average exchange rates of \$1.00 = 0.884 euros, 1.345 Swiss francs, and 0.612 pounds sterling. **a** Shares split 10 for 1. **b** Pro forma. **c** Acquired Zeneca agrochemicals. **d** Shareholding restructured. **def** = deficit. **na** = not available. **nm** = not meaningful.

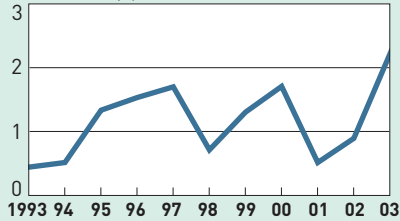
## JAPAN COMPANY FINANCIALS

Last fiscal year was the best on record for Japanese companies

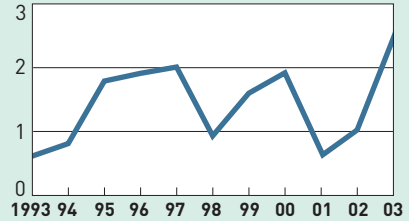
Sales, \$ billions



Net income, \$ billions



Net income as % of sales



NOTE: Based on results of 12 leading Japanese chemical companies: Asahi-Kasei, Dainippon Ink & Chemicals, JSR Corp., Kaneka, Mitsubishi Chemical, Mitsui Chemicals, Nippon Sanso, Shin-Etsu Chemical, Showa Denko, Sumitomo Chemical, Teijin, and Toray. The fiscal year of these companies ends on March 31 of the following year, except for Showa Denko, which ends on Dec. 31. Monetary statistics are converted from yen to U.S. dollars on the basis of the 2003 average exchange rate of \$1.00 U.S. = 115.97 yen.

## JAPAN COMPANY RESULTS

Earnings improved, and the price/earnings ratios came back to more earthy levels

YEAR	NET SALES	EARNINGS	TOTAL ASSETS	NET PLANT AND EQUIPMENT	STOCK-HOLDERS' EQUITY	EARNINGS			DIVIDEND, \$ PER SHARE	DIVIDEND YIELD, % OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
						% OF SALES	% OF STOCK-HOLDERS' EQUITY	\$ PER SHARE			HIGH	LOW	
ASAHI KASEI													
2003	\$10,809	\$239	\$10,772	\$3,693	\$3,884	2.2%	6.1%	\$0.17	\$0.05	1.3%	¥633	¥298	23.7
2002	10,292	-576	10,454	3,684	3,515	def	def	def	0.05	1.6	520	239	nm
2001	10,308	45	10,287	3,580	4,284	0.4	1.0	0.03	0.05	1.2	650	340	137.1
2000	10,937	217	10,692	3,614	4,450	2.0	4.9	0.15	0.05	0.9	822	506	38.1
DAINIPPON INK & CHEMICALS													
2003	\$8,405	\$55	\$8,768	\$3,190	\$1,209	0.7%	4.5%	\$0.07	\$0.03	1.9%	¥256	¥176	27.9
2002	8,449	21	8,987	3,222	1,231	0.2	1.7	0.02	0.03	1.7	291	171	82.8
2001	8,449	38	9,598	3,405	1,510	0.5	2.5	0.05	0.00	0.0	368	161	47.1
2000	8,466	129	9,824	3,371	1,267	1.5	10.2	0.16	0.04	1.0	545	323	23.0
JSR CORP.													
2003	\$2,372	\$167	\$2,661	\$732	\$1,375	7.0%	12.1%	\$0.65	\$0.08	0.5%	¥2,540	¥1,141	24.5
2002	2,131	95	2,431	730	1,202	4.4	7.9	0.37	0.06	0.7	1,282	856	25.0
2001	1,898	41	2,329	754	1,136	2.1	3.6	0.16	0.05	0.7	1,005	599	43.4
2000	1,999	49	2,448	774	1,075	2.4	4.6	0.19	0.05	0.7	1,021	600	36.5
KANEKA													
2003	\$3,451	\$135	\$3,385	\$1,107	\$1,766	3.9%	7.6%	\$0.38	\$0.07	1.0%	¥1,055	¥501	17.7
2002	3,210	115	3,191	1,137	1,602	3.6	7.2	0.32	0.07	1.1	975	519	20.1
2001	3,066	81	3,276	1,183	1,560	2.6	5.2	0.23	0.07	0.8	1,200	695	36.2
2000	3,168	91	3,494	1,188	1,545	2.9	5.9	0.25	0.07	0.7	1,445	890	39.6
MITSUBISHI CHEMICAL													
2003	\$16,602	\$298	\$17,260	\$6,237	\$3,424	1.8%	8.7%	\$0.14	\$0.03	1.6%	¥318	¥187	16.0
2002	16,276	184	18,255	7,001	3,021	1.1	6.1	0.08	0.03	1.1	332	190	26.8
2001	15,352	-390	19,368	7,279	2,964	def	def	def	0.00	0.0	434	230	nm
2000	15,066	27	17,389	6,567	3,310	0.2	0.8	0.01	0.02	0.5	482	254	253.8
MITSUI CHEMICALS													
2003	\$9,395	\$107	\$10,248	\$4,732	\$3,306	1.1%	3.3%	\$0.14	\$0.05	1.1%	¥680	¥406	34.4
2002	9,082	175	10,565	5,008	3,197	1.9	5.5	0.22	0.05	1.1	687	429	21.7
2001	8,215	66	11,191	5,035	3,165	0.8	2.1	0.08	0.05	1.3	666	280	48.8
2000	8,104	147	11,335	4,766	3,044	1.8	4.8	0.19	0.05	0.9	900	451	31.2
NIPPON SANZO													
2003	\$1,986	\$39	\$2,273	\$872	\$817	2.0%	4.8%	\$0.13	\$0.05	1.5%	¥496	¥329	26.8
2002	2,056	37	2,188	926	769	1.8	4.8	0.12	0.00	0.0	451	314	26.6
2001	2,083	27	2,377	1,053	782	1.3	3.5	0.09	0.05	1.4	577	272	40.1
2000	2,223	15	2,621	1,022	750	0.7	2.0	0.05	0.03	0.8	523	270	67.7

YEAR	NET SALES	TOTAL EARNINGS	NET PLANT AND ASSETS	STOCK-HOLDERS' EQUIPMENT	% OF EQUITY	EARNINGS			DIVIDEND YIELD, SHARE	% OF PRICE	STOCK PRICE RANGE, PER SHARE		PRICE/EARNINGS RATIO
						% OF STOCK-HOLDERS' SALES	\$ PER EQUITY	\$ PER SHARE			HIGH	LOW	
(Money figures in millions of dollars unless otherwise indicated)													
<b>SHIN-ETSU CHEMICALS</b>													
2003	\$7,181	\$645	\$11,953	\$3,750	\$7,767	9.0%	8.3%	\$1.53	\$0.14	0.4%	¥4,980	¥3,500	23.9
2002	6,877	630	11,304	3,807	7,303	9.2	8.6	1.49	0.12	0.3	5,630	3,670	26.9
2001	6,684	591	11,110	3,931	7,002	8.8	8.4	1.40	0.10	0.3	5,920	3,260	28.2
2000	6,963	556	10,915	3,262	6,165	8.0	9.0	1.32	0.09	0.2	6,560	3,610	33.1
<b>SHOWA DENKO</b>													
2003	\$5,944	\$89	\$8,105	\$4,640	\$1,432	1.5%	6.2%	\$0.08	\$0.02	1.0%	¥251	¥146	21.9
2002	5,812	112	8,507	4,877	1,294	1.9	8.7	0.10	0.00	0.0	225	119	15.0
2001	6,113	-295	8,889	4,953	1,203	def	def	def	0.00	0.0	294	108	nm
2000	6,441	24	9,387	5,170	1,248	0.4	1.9	0.02	0.00	0.0	195	110	57.3
<b>SUMITOMO CHEMICAL</b>													
2003	\$9,989	\$296	\$13,359	\$4,155	\$4,364	3.0%	6.8%	\$0.18	\$0.05	1.5%	¥505	¥317	19.8
2002	9,581	268	12,799	4,015	3,831	2.8	7.0	0.16	0.05	1.3	605	343	25.3
2001	8,781	294	12,013	3,464	3,834	3.3	7.7	0.16	0.05	1.2	670	345	27.8
2000	8,976	159	12,550	3,533	3,896	1.8	4.1	0.12	0.04	0.9	667	475	41.9
<b>TEIJIN</b>													
2003	\$7,541	\$73	\$7,886	\$3,396	\$2,534	1.0%	2.9%	\$0.08	\$0.06	2.1%	¥361	¥253	34.3
2002	7,678	-181	8,938	3,734	2,402	def	def	def	0.06	1.8	492	248	nm
2001	7,963	8	9,525	3,734	2,686	0.1	0.3	0.01	0.06	1.1	759	394	538.8
2000	6,566	138	9,127	3,375	2,766	2.1	5.0	0.15	0.06	1.3	593	391	28.0
<b>TORAY INDUSTRIES</b>													
2003	\$9,386	\$180	\$11,169	\$4,685	\$3,572	1.9%	5.0%	\$0.13	\$0.05	1.5%	¥492	¥264	25.4
2002	8,907	50	11,218	5,030	3,366	0.6	1.5	0.04	0.04	1.6	395	230	75.7
2001	8,758	33	11,956	5,461	3,562	0.4	0.9	0.02	0.04	1.1	585	299	163.1
2000	9,273	146	12,599	5,424	3,666	0.0	0.0	0.10	0.06	1.5	530	374	37.4

**NOTE:** All monetary statistics, except share prices, are converted to U.S. dollars at the 2003 average rate of \$1.00 U.S. = 115.97 ¥. Statistics prepared on the basis of consolidated results. Fiscal years end March 31 of the following year, except at Showa Denko, where fiscal year ends Dec. 31. **def** = deficit. **nm** = not meaningful.



EQUISTAR PHOTO

**U.S. CAPITAL SPENDING**

Chemical companies showed a slight pick-up

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Air Products & Chemicals <sup>a</sup>	\$491	\$611	\$870	\$951	\$870	\$771	\$889	\$768	\$708	\$628	\$613
Albemarle	88	70	112	90	85	77	78	52	50	38	41
Arch Chemicals	na	na	na	na	na	84	59	62	45	35	20
Cabot <sup>a</sup>	65	74	131	209	163	187	166	137	122	146	129
Cambrex	16	21	46	32	36	43	31	39	43	50	38
Crompton <sup>b</sup>	14	22	18	39	50	67	132	155	137	100	88
Cytec Industries	111	116	97	73	91	104	77	77	64	62	94
Dow Chemical <sup>c</sup>	1,397	1,183	1,417	1,344	1,198	1,546	1,412	1,349	1,587	1,623	1,100
DuPont <sup>d</sup>	1,667	1,292	1,476	1,395	1,781	2,240	2,055	1,925	1,634	1,280	1,713
Eastman Chemical	na	281	446	789	749	500	292	226	234	427	230
Ethyl	205	141	45	29	44	23	14	14	10	13	12
FMC Corp. <sup>e</sup>	205	271	428	485	317	266	236	240	146	84	87
H.B. Fuller <sup>f</sup>	42	65	91	90	69	62	56	49	31	36	39
W.R. Grace	310	445	538	457	259	101	83	65	63	91	86
Great Lakes Chemical	79	123	247	237	133	161	119	157	166	65	63
Hercules	149	164	117	120	119	157	196	187	63	43	48
Intl. Specialty Products	63	31	39	55	69	166	109	58	102	58	101
Lubrizol	128	161	189	94	101	93	65	86	66	65	88
Monsanto <sup>g</sup>	437	409	500	692	644	979	976	582	382	224	206
PPG Industries	293	356	448	489	466	487	490	561	291	238	217
Praxair	240	326	600	893	902	781	653	704	595	498	983
Quaker Chemical	9	9	10	7	6	8	6	6	8	11	13
Rohm and Haas	382	339	417	334	254	229	323	391	401	407	339
Solutia <sup>h</sup>	—	—	—	—	165	158	257	221	94	59	78
Stepan	25	43	39	45	36	44	33	28	34	36	33
<b>TOTAL</b>	<b>\$6,416</b>	<b>\$6,553</b>	<b>\$8,321</b>	<b>\$8,949</b>	<b>\$8,607</b>	<b>\$9,333</b>	<b>\$8,807</b>	<b>\$8,139</b>	<b>\$7,074</b>	<b>\$6,318</b>	<b>\$6,459</b>
<b>ANNUAL CHANGE<sup>i</sup></b>	<b>-7.8%</b>	<b>-2.2%</b>	<b>27.0%</b>	<b>7.5%</b>	<b>-5.7%</b>	<b>7.5%</b>	<b>-5.6%</b>	<b>-7.6%</b>	<b>-13.1%</b>	<b>-10.7%</b>	<b>2.2%</b>

**NOTE:** Figures are for worldwide spending on construction, equipment, and land in consolidated businesses. Prior years are not restated to reflect company revisions. **a** Fiscal year ends Sept. 30. **b** Formed in 1999 from merger of Crompton & Knowles and Witco. Figures prior to 1999 are for Crompton & Knowles. **c** Sold off drug business in 1995. Acquired Union Carbide in 2001. **d** Acquired all of Pioneer Hi-Bred in 1999 and all of DuPont Merck Pharmaceutical in 1998. Sold drug operations in 2001. **e** Machinery business split off in December 2001. Data for 2002 and 2003 are for remaining chemical operations. **f** Fiscal year ends Nov. 30. **g** Merged with Pharmacia in 1999. Spun off from Pharmacia in August 2002. **h** Spun off from Monsanto in 1997. **i** Percentage changes are calculated for companies reporting in the previous year. **na** = not available.

**CANADA CAPITAL SPENDING**

Outlays rose for three out of four companies in 2003

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Agrium	na	na	\$88	\$153	\$144	\$174	\$253	\$179	\$164	\$52	\$99
Methanex	\$69	\$160	182	174	154	178	139	19	91	160	243
Nova Chemicals <sup>a</sup>	—	—	97	175	223	367	620	440	168	71	130
Potash Corp.	16	17	40	59	160	190	119	186	514	212	151
<b>TOTAL<sup>b</sup></b>	<b>\$85</b>	<b>\$177</b>	<b>\$407</b>	<b>\$561</b>	<b>\$681</b>	<b>\$909</b>	<b>\$1,131</b>	<b>\$824</b>	<b>\$937</b>	<b>\$495</b>	<b>\$623</b>

**NOTE:** Data for Nova Chemicals for 1995 converted from Canadian dollars to U.S. dollars on the basis of the 2003 average exchange rate of \$1.00 = \$1.401 Canadian. **a** Nova Chemicals was spun off from Nova Corp. in 1998; figures for 1995 to 1997 are pro forma. **b** For companies reporting. **na** = not available.

## EUROPE CAPITAL SPENDING

Total spending fell to half of level three years ago

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Air Liquide (France)	\$669	\$506	\$752	\$1,182	\$1,436	\$1,623	\$1,278	\$1,030	\$871	\$1,030	\$828
Akzo Nobel (Netherlands)	582	784	816	893	725	927	902	820	930	780	657
BASF (Germany)	2,558	1,894	3,103	3,972	3,354	4,674	4,300	9,773	4,586	3,722	2,595
Bayer (Germany)	1,826	2,030	1,833	2,185	2,638	3,058	2,978	2,995	2,961	2,696	1,968
BOC International (U.K.)	671	679	837	1,032	1,105	976	825	677	577	578	459
Celanese <sup>a</sup> (Germany)	—	—	101	111	535	390	296	266	261	247	209
Ciba Specialty Chemicals <sup>b</sup> (Switzerland)	—	—	—	415	389	294	198	185	193	186	173
Clariant <sup>c</sup> (Switzerland)	—	—	—	421	351	344	316	398	375	252	224
Degussa (Germany)	289	267	285	273	308	na	1,181	1,100	1,279	1,087	890
DSM (Netherlands)	353	190	390	548	518	662	732	696	738	569	490
ICI (U.K.)	760	629	1,028	1,677	1,172	905	436	472	389	351	252
Kemira (Finland)	162	124	177	229	239	289	190	247	337	275	265
Lonza <sup>d</sup> (Switzerland)	—	—	—	—	—	303	207	110	196	259	315
Merck <sup>e</sup> (Germany)	243	307	319	299	308	361	406	483	532	427	318
Rhodia <sup>f</sup> (France)	—	—	553	614	384	380	421	569	547	423	264
Solvay (Belgium)	539	558	578	785	841	724	1,040	919	816	707	628
Syngenta <sup>g</sup> (Switzerland)	—	—	—	—	—	—	—	185	253	165	221
<b>TOTAL<sup>h</sup></b>	<b>\$8,651</b>	<b>\$7,968</b>	<b>\$10,772</b>	<b>\$14,634</b>	<b>\$14,300</b>	<b>\$15,911</b>	<b>\$15,707</b>	<b>\$20,924</b>	<b>\$15,840</b>	<b>\$13,754</b>	<b>\$10,756</b>

**NOTE:** Monetary statistics for all years were converted from local currencies to U.S. dollars on the basis of the 2003 average exchange rates of \$1.00 U.S. = 0.884 euros, 0.612 pounds sterling, and 1.345 Swiss francs. **a** Spun off from Hoechst in 1999; prior figures are pro forma. **b** Spun off from Novartis in 1997. **c** Spun off from Sandoz in 1995; merged with Hoechst Specialty Chemicals in 1997. **d** Became independently listed company in 1999; prior figures are pro forma. **e** Privately held until 1996. **f** Spun off from Rhône-Poulenc in 1998; prior figures are pro forma. **g** Became an independent company in 2000; prior figures are pro forma. **h** For companies reporting. **na** = not available.

## JAPAN CAPITAL SPENDING

Sumitomo was the biggest spender for the second year in a row

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asahi Kasei	\$755	\$647	\$620	\$631	\$647	\$608	\$545	\$597	\$645	\$810	\$745
Dainippon Ink & Chemicals	na	na	na	498	847	673	800	471	435	372	394
JSR Corp.	123	53	85	158	193	198	106	94	114	138	148
Kaneka	na	na	na	272	246	211	211	211	209	154	198
Mitsubishi Chemical <sup>a</sup>	—	—	748	899	1,009	904	730	744	860	736	598
Mitsui Chemicals <sup>b</sup>	—	—	—	—	518	449	469	531	1,014	593	394
Nippon Sanso	na	na	147	171	203	197	122	103	149	153	64
Shin-Etsu Chemical	297	584	576	801	1,176	635	690	834	703	565	878
Showa Denko	na	na	na	369	552	423	321	345	279	245	352
Sumitomo Chemical	508	155	549	621	715	583	704	535	629	1,311	950
Teijin	na	na	na	na	na	273	373	425	482	605	457
Toray	749	805	977	829	1,299	1,043	944	518	564	494	421
<b>TOTAL<sup>c</sup></b>	<b>\$2,432</b>	<b>\$2,243</b>	<b>\$3,703</b>	<b>\$5,249</b>	<b>\$7,404</b>	<b>\$6,195</b>	<b>\$6,015</b>	<b>\$5,408</b>	<b>\$6,083</b>	<b>\$6,176</b>	<b>\$5,600</b>

**NOTE:** Monetary statistics were converted from yen to U.S. dollars on the basis of the 2003 average exchange rate of \$1.00 = 115.97 yen. Fiscal year ends March 31 of the following year, except for Showa Denko, which ends on Dec. 31. **a** Mitsubishi Chemical was formed in 1994 by the merger of Mitsubishi Kasei and Mitsubishi Petrochemical. **b** Mitsui Chemicals was formed in 1997 by the merger of Mitsui Toatsu and Mitsui Petrochemical. **c** For companies reporting. **na** = not available.



## U.S. R&D SPENDING

Outlays by U.S. chemical companies were almost unchanged, while drug and diversified firms spent much more, helped by Pfizer-Pharmacia

### CHEMICAL

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Air Products & Chemicals <sup>a</sup>	\$92	\$97	\$103	\$114	\$114	\$112	\$123	\$124	\$123	\$121	\$121
Albemarle	30	28	30	30	31	30	34	26	22	17	18
Arch Chemicals	na	na	na	na	na	16	18	17	25	23	24
Cabot <sup>a</sup>	46	49	59	79	83	83	73	43	48	48	64
Cambrex	6	6	8	9	11	14	14	14	20	18	17
Crompton <sup>b</sup>	11	12	14	52	54	53	68	85	82	82	52
Cytec Industries	41	40	44	40	45	43	44	39	32	34	35
Dow Chemical <sup>c</sup>	1,256	1,261	808	761	785	807	845	892	1,072	1,066	981
DuPont <sup>d</sup>	1,132	1,047	1,067	1,032	1,116	1,308	1,617	1,776	1,588	1,264	1,349
Eastman Chemical	na	167	176	184	191	185	187	149	160	159	173
Ethyl	45	50	54	47	42	40	41	40	33	30	28
FMC Corp. <sup>e</sup>	149	167	188	177	174	158	152	155	100	82	87
H.B. Fuller <sup>f</sup>	22	24	27	26	25	22	21	18	19	18	18
W.R. Grace	135	132	121	94	42	47	42	46	50	52	52
Great Lakes Chemical	55	59	63	64	42	42	46	40	41	26	28
Hercules	76	65	59	56	53	61	85	80	67	42	39
Intl. Specialty Products	21	20	22	25	27	26	23	26	25	26	25
Lubrizol	89	91	105	93	88	78	78	86	88	94	94
Monsanto <sup>g</sup>	626	609	658	728	939	1,263	695	588	560	527	510
PPG Industries	201	218	236	239	250	271	284	282	266	289	306
Praxair	58	58	61	72	79	72	67	65	66	69	75
Quaker Chemical	11	10	11	11	10	10	9	9	9	9	10
Rohm and Haas	205	201	194	187	200	207	236	259	230	260	238
Solutia <sup>h</sup>	—	—	—	—	60	62	58	67	58	39	53
Stepan	13	12	12	13	12	12	13	13	14	15	15
<b>TOTAL</b>	<b>\$4,320</b>	<b>\$4,423</b>	<b>\$4,120</b>	<b>\$4,133</b>	<b>\$4,473</b>	<b>\$5,023</b>	<b>\$4,873</b>	<b>\$4,939</b>	<b>\$4,798</b>	<b>\$4,408</b>	<b>\$4,412</b>
<b>ANNUAL CHANGE<sup>i</sup></b>	<b>-3.8%</b>	<b>-1.5%</b>	<b>-6.9%</b>	<b>0.3%</b>	<b>6.8%</b>	<b>11.9%</b>	<b>-3.0%</b>	<b>1.4%</b>	<b>-2.8%</b>	<b>-8.1%</b>	<b>0.1%</b>

### PHARMACEUTICAL & DIVERSIFIED

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Bristol-Myers Squibb <sup>j</sup>	\$1,128	\$1,108	\$1,199	\$1,276	\$1,385	\$1,577	\$1,843	\$1,939	\$2,259	\$2,218	\$2,279
Eli Lilly	955	839	1,042	1,190	1,382	1,739	1,784	2,019	2,235	2,149	2,350
Honeywell <sup>k</sup>	313	318	353	345	349	394	909	818	832	757	751
Merck	1,173	1,231	1,331	1,487	1,684	1,821	2,068	2,344	2,456	2,677	3,178
Pfizer <sup>l</sup>	1,355	1,497	1,854	2,166	2,536	3,305	4,036	4,435	4,847	5,176	7,131
Procter & Gamble <sup>m</sup>	956	1,162	1,304	1,399	1,469	1,546	1,726	1,899	1,769	1,601	1,665
Schering-Plough	578	620	657	723	847	1,007	1,191	1,333	1,312	1,425	1,469
3M	1,030	1,054	883	947	1,002	1,016	1,038	1,101	1,064	1,070	1,102
Wyeth	663	817	1,355	1,429	1,558	1,655	1,740	1,688	1,870	2,080	2,094
<b>TOTAL</b>	<b>\$8,151</b>	<b>\$8,646</b>	<b>\$9,978</b>	<b>\$10,962</b>	<b>\$12,212</b>	<b>\$14,060</b>	<b>\$16,335</b>	<b>\$17,576</b>	<b>\$18,644</b>	<b>\$19,153</b>	<b>\$22,019</b>
<b>ANNUAL CHANGE<sup>i</sup></b>	<b>6.7%</b>	<b>6.1%</b>	<b>15.4%</b>	<b>9.9%</b>	<b>11.4%</b>	<b>15.1%</b>	<b>16.2%</b>	<b>7.6%</b>	<b>6.1%</b>	<b>2.7%</b>	<b>15.0%</b>

**NOTE:** Prior years are not restated to reflect company revisions except where noted. **a** Fiscal year ends Sept. 30. **b** Formed in 1999 from merger of Crompton & Knowles and Witco. Figures prior to 1999 are for Crompton & Knowles. **c** Sold off drug business in 1995. Acquired Union Carbide in 2001. **d** Acquired all of Pioneer Hi-Bred in 1999 and all of DuPont Merck Pharmaceutical in 1998. Sold drug operations in 2001. **e** Machinery business split off in December 2001. Data for 2002 and 2003 are for remaining chemical operations. **f** Fiscal year ends Nov. 30. **g** Merged with Pharmacia in 1999. Spun off from Pharmacia in August 2002. **h** Spun off from Monsanto in 1997. **i** Percentage changes are calculated for companies reporting in the previous year. **j** Acquired DuPont Pharmaceuticals in 2001. **k** Merged with AlliedSignal in 1999. Figures prior to 1999 are for AlliedSignal. **l** Merged with Warner-Lambert in 2000, with Pharmacia in 2003. Prior years are restated for Warner-Lambert but not Pharmacia. **m** Fiscal year ends June 30. **na** = not available.

## EUROPE R&D SPENDING

Only a few modest increases emerged in picture of falling R&D spending

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Air Liquide (France)	\$80	\$81	\$85	\$92	\$98	\$98	\$103	\$108	\$102	\$104	\$107
Akzo Nobel (Netherlands)	477	577	571	584	647	735	821	894	958	1,019	975
BASF (Germany)	1,119	1,109	1,208	1,323	1,385	1,391	1,508	1,727	1,411	1,284	1,250
Bayer (Germany)	1,826	1,838	1,885	2,088	2,244	2,314	2,548	2,708	2,896	2,916	2,731
BOC International (U.K.)	139	144	150	162	132	109	81	97	98	77	65
Celanese <sup>a</sup> (Germany)	—	—	129	145	150	114	89	98	98	84	89
Ciba Specialty Chemicals <sup>b</sup> (Switzerland)	—	—	—	—	224	226	190	218	205	219	209
Clariant <sup>c</sup> (Switzerland)	—	—	—	—	259	248	269	308	304	262	229
Degussa (Germany)	272	235	250	273	308	na	588	613	430	410	402
DSM (Netherlands)	200	180	178	200	226	285	293	299	337	307	303
ICI (U.K.)	598	394	302	312	374	248	239	261	258	242	245
Kemira (Finland)	na	44	46	53	54	55	54	54	44	52	54
Lonza <sup>d</sup> (Switzerland)	—	—	—	—	—	78	73	71	77	76	51
Merck <sup>e</sup> (Germany)	272	344	356	377	444	458	563	618	653	688	685
Rhodia <sup>f</sup> (France)	—	—	217	230	226	207	200	220	223	227	212
Solvay (Belgium)	338	322	332	345	321	330	390	407	386	449	457
Syngenta <sup>g</sup> (Switzerland)	—	—	—	—	—	—	769	745	723	697	727
<b>TOTAL<sup>h</sup></b>	<b>\$5,322</b>	<b>\$5,268</b>	<b>\$5,711</b>	<b>\$6,182</b>	<b>\$7,095</b>	<b>\$6,899</b>	<b>\$8,781</b>	<b>\$9,446</b>	<b>\$9,203</b>	<b>\$9,112</b>	<b>\$8,792</b>

**NOTE:** Monetary statistics for all years were converted from local currencies to U.S. dollars on the basis of the 2003 average exchange rates of \$1.00 U.S. = 0.884 euros, 0.612 pounds sterling, and 1.345 Swiss francs. **a** Spun off from Hoechst in 1999; prior figures are pro forma. **b** Spun off from Novartis in 1997. **c** Spun off from Sandoz in 1995; merged with Hoechst Specialty Chemicals in 1997. **d** Became independently listed company in 1999; prior figures are pro forma. **e** Privately held until 1996. **f** Spun off from Rhône-Poulenc in 1998; prior figures are pro forma. **g** Became independent company in 2000; prior figures are pro forma. **h** For companies reporting. **na** = not available.

## JAPAN R&D SPENDING

Expenditures at most companies fluctuated a bit, and overall spending dipped

\$ MILLIONS	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Asahi Kasei	\$462	\$459	\$477	\$479	\$492	\$490	\$431	\$429	\$427	\$425	\$417
Dainippon Ink & Chemicals	na	na	97	110	119	109	92	104	110	111	129
JSR Corp.	na	45	41	35	43	48	52	45	114	121	130
Kaneka	na	na	na	na	na	87	106	113	113	121	125
Mitsubishi Chemical <sup>a</sup>	—	—	596	634	647	579	574	587	729	785	763
Mitsui Chemicals <sup>b</sup>	—	—	—	—	349	339	329	315	336	320	284
Nippon Sanso	na	na	na	na	na	na	34	30	30	22	20
Shin-Etsu Chemical	na	na	na	na	na	na	233	224	243	235	228
Showa Denko	na	171	160	158	195	205	194	143	133	133	135
Sumitomo Chemical	492	477	470	473	473	513	511	510	575	628	648
Teijin	216	212	214	210	237	238	245	261	275	258	283
Toray	295	288	292	309	312	327	334	334	321	307	268
<b>TOTAL<sup>c</sup></b>	<b>\$1,466</b>	<b>\$1,652</b>	<b>\$2,347</b>	<b>\$2,409</b>	<b>\$2,867</b>	<b>\$2,935</b>	<b>\$3,136</b>	<b>\$3,094</b>	<b>\$3,408</b>	<b>\$3,466</b>	<b>\$3,430</b>

**NOTE:** Monetary statistics converted from yen on the basis of the 2003 average exchange rate of \$1.00 = 115.97 yen. Fiscal year ends March 31 of the following year for all companies, except Showa Denko, where it ends Dec. 31. **a** Mitsubishi Chemical was formed in 1994 by the merger of Mitsubishi Kasei and Mitsubishi Petrochemical. **b** Mitsui Chemicals was formed in 1997 by the merger of Mitsui Toatsu and Mitsui Petrochemical. **c** Total for reporting companies only. **na** = not available.