



AKZO

A N N U A L R E P O R T

1988

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Translation.
In the event of a conflict in interpretation,
reference should be made to the Dutch version
of this Annual Report.

The symbol ® indicates trademarks registered
in one or more countries.

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	1988	1987
<i>Millions of guilders</i>		
Net sales	16,581	15,535
Operating income	1,424	1,181
Net income	843	942
Net income before extraordinary items	854	669
Cash flow	1,623	1,662
Common stock	805	804
Stockholders' equity	4,290	3,812
Property, plant and equipment		
- Expenditures	1,270	1,095
- Depreciation	751	668
Acquisitions	327	1,519
<i>Per common share of Hfl 20, in guilders</i>		
Net income	20.94	23.43
Net income before extraordinary items	21.22	16.63
Dividend	7.50	6.60
Stockholders' equity	106.61	94.80
<i>Key financial statistics</i>		
Operating income, as % of net sales	8.6	7.6
Operating income, as % of average invested capital	17.4	16.1
Net income, as % of average stockholders' equity	20.8	23.2
Group equity / debt	0.51	0.52
Number of employees at year end	71,100	67,400

Akzo, headquartered in the Netherlands, is a worldwide group of companies with operations in 50 countries.

Its product range includes chemical products, fibers, coatings, and healthcare products.

Group activities are organized in five divisions.

Akzo's objective is to build a strong and well-balanced product mix in a responsible manner. In addition to efforts to strengthen its existing portfolio of products, Akzo focuses on the development of new activities in major growth sectors that draw upon the Company's technological and marketing know-how.

Geographically, Akzo's operations are largely concentrated in the Netherlands and the Federal Republic of Germany. About 55% of the Group's total invested capital and about 60% of its manpower resources are employed in these two countries.

In the Netherlands, the United States, Belgium, Brazil, and Japan, Akzo has national organizations that have a coordinating function and render services to the divisions.

Akzo has assigned a high priority to the expansion of its position in North America, East Asia, and South-East Asia.

Akzo enjoyed a good business year, spurred by the generally healthy economic climate and the improved product mix. In particular, chemical products made a major contribution to the positive development of earnings. While capital investments and R&D expenditures showed a further increase, 1988 was in essence a year of consolidation for Akzo. Less money was spent on acquisitions, and integration of newly acquired companies was consistently pursued. The total reorganization of our chemical division following the acquisition of Stauffer Specialty Chemicals placed heavy demands on all those involved.

One of the highlights of 1988 was the introduction of our new corporate identity, which should present Akzo more clearly to the outside world. A key objective of the corporate identity program is to strengthen the internal functioning of the Group as a single, unified company. This should provide us with a solid base on which we can successfully build other programs aimed at full development of our human resources and a better utilization of the technological expertise available within our company. It is important that we should seek to do not only the right things but to do the right things right. To be successful in these endeavors we need to emphasize the quality of our operations. Throughout the Group, projects are now being implemented whose central purpose is the best utilization of our efforts. The commitment to excellence we seek to foster calls for a change in attitude and behavior at all levels.

Of our invested capital, approximately 70% is employed in Europe. It is therefore only logical that Europe 1992 looms large among our priorities. As a matter of fact, the integration of the European market is an event for which we have long been preparing. This is apparent in our coatings division, which has strengthened and

expanded its position in a number of European countries in recent years. For our pharma division, European integration could reduce the funding of research for new pharmaceutical products, which is already being jeopardized by the differences in national policies to control healthcare costs. As most of our chemical products and fibers are being sold in the global marketplace, European integration is basically of regional importance to these business sectors. Nonetheless, we will closely monitor developments so as to be prepared to take anticipatory action. In general, we believe that European integration will provide an extra stimulus for the process of industrial restructuring that has clearly been gathering momentum since the beginning of this decade.

1988 was also the year in which more than at any time previously everyone should have become intensely aware of the serious threats to the environment. The community is going to be faced with drastic measures that will have important financial consequences. It should be realized, though, that what has gone wrong in our society over a period of many years cannot be rectified overnight. It is therefore of the utmost importance that priorities should be set in the efforts to improve the environment. In the coming years we at Akzo will also be increasingly confronted with the dilemma of what is necessary for the environment and what is technically and economically feasible. We recognize that we bear our own responsibility in these matters and we accept public accountability.

Presently there are no signs of a decline in our healthy business performance. Therefore, if the favorable economic climate continues, 1989 earnings should be at least at the same level as in 1988. I base this pronouncement on the progress made over the past few years in strengthening and improving our product mix and on the attested willingness of our employees to perform their duties with exemplary dedication. For this I would like to express my gratitude to them.



A handwritten signature in dark ink, which appears to read "A.A. Loudon". The signature is written in a cursive style and is positioned above a horizontal line.

A.A. Loudon



The members of the Management Committee. Left to right:

*S. Bergsma
A.A. Loudon
C. Zaal
J.R. Hutter
J.W. Berghuis
J. Veldman
J.C.P. van Oosterom
M.W. Geerlings
F.A.G. Collot d'Escury
M.D. Westermann
A.G.J. Vermeeren
A.R. Dragone*

Supervisory Council

G. Kraijenhoff, Chairman
A. Herrhausen, Deputy Chairman
E.G.G. Werner, Deputy Chairman
A. Batenburg
A.G. van den Bos
F.H. Fentener van Vlissingen
H.A. van Stiphout
C. van Veen
O. Wolff von Amerongen
H.G. Zempelin

Board of Management

A.A. Loudon, President
J.W. Berghuis
J. Veldman
M.D. Westermann

Secretary

Th.J.A.W. Schregardus

Management Committee

The Board of Management is assisted in policy-making by a Management Committee, which includes the members of the Board and other senior officers.

A.A. Loudon, Chairman
J.W. Berghuis, Deputy Chairman
J. Veldman, Deputy Chairman
M.D. Westermann, Deputy Chairman
S. Bergsma, Financial Affairs
F.A.G. Collot d'Escury, salt and basic chemical division
A.R. Dragone, Akzo America
M.W. Geerlings, Research and Technology
J.R. Hutter, fibers and polymers division
J.C.P. van Oosterom, chemical division
A.G.J. Vermeeren, pharma division
C. Zaal, coatings division

Agenda

Agenda of the Annual Meeting of Stockholders of Akzo to be held in Musis Sacrum, Velperplein, Arnhem, the Netherlands, on Thursday, April 27, 1989, at 2:00 p.m.

- 1 Opening

- 2 Report of the Board of Management for the fiscal year 1988

- 3 Approval of the financial statements; consideration of the dividend proposal

- 4 Appointment of members of the Supervisory Council

- 5 Approval of cooperation by the Company in the issue of American Depositary Receipts (ADRs) in substitution for existing ADRs

- 6 Proposal to designate the Board of Management as entitled to issue shares and to restrict or disregard the preemptive rights of stockholders

- 7 Proposal to authorize the Board of Management to acquire shares of the Company on behalf of the Company

- 8 Any other business

Financial Calendar 1989

Annual Meeting of Stockholders	April 27
Report for the 1st Quarter 1989	April 27
Report for the 2nd Quarter 1989	August 3
Report for the 3rd Quarter 1989	November 2
Payment of the 1988 Final Dividend	May 16

Changes in the Supervisory

Council At the Annual Meeting of Stockholders held on April 28, 1988, G. Kraijenhoff, A. Batenburg, and E.G.G. Werner, whose terms of office had expired, were reappointed to the Supervisory Council.

At the Annual Meeting of Stockholders scheduled for April 27, 1989, H.A. van Stiphout, C. van Veen, and O. Wolff von Amerongen will step down as their terms of office are expiring. H.A. van Stiphout and C. van Veen will stand for reappointment. Having reached the mandatory retirement age, Mr. Wolff von Amerongen will not be eligible for reappointment, and at this meeting we will therefore lose his valuable services. In 1967 Mr. Wolff von Amerongen joined the Supervisory Council of the then Glanzstoff AG, and he has been a member of the Supervisory Council of Akzo since 1969. We are greatly indebted to Mr. Wolff von Amerongen for the substantial contributions he has made to the progress of Akzo. To fill the vacancy we recommend appointment of J.G.A. Gandois.

Changes in the Board of

Management At the Annual Meeting of Stockholders of April 28, 1988, M.D. Westermann was appointed a member of the Board of Management to succeed H.J.J. van der Werf, who retired from the Board, having reached the age limit.

Changes in the Management

Committee On July 1, 1989, J.R. Hutter, President of the fibers and polymers division, will leave the Company, having reached the retirement age. We owe a debt of gratitude to Mr. Hutter for his contributions to the development of the Group, in particular during the restructuring of the fibers and polymers division. He will be succeeded by U.G. Stark. As of the

same date, Mr. Stark will be appointed a member of the Management Committee.

Supervision During 1988 the Supervisory Council received regular reports on the Company's business and consulted periodically with the Board of Management.

In addition, a committee from the Supervisory Council participated in meetings with the members of the Board of Management, the member of the Management Committee in charge of financial affairs, some staff officers, and the external auditors. During these meetings, which have been a regular feature of recent years, attention is notably devoted to the financial statements and to internal control.

For the fine performance achieved in 1988 we thank both the Board of Management and the Company's employees.

Financial Statements and Dividend Proposal

We herewith submit to you for approval at the Annual Meeting of April 27, 1989, the financial statements for 1988 as prepared by the Board of Management. These financial statements have been examined by KPMG Klynveld Kraayenhof & Co., *Registeraccountants*. Their report appears on page 60.

We have approved these financial statements as well as the Board of Management's proposal made therein with regard to the allocation of profit, and the dividend proposal as stated in the Report of the Board of Management on pages 10 and 11. We recommend that you also approve the financial statements, thus discharging the responsibility of the members of the Board of Management for their conduct of the business and of the members of the Supervisory Council for their supervision.

Arnhem, March 13, 1989

The Supervisory Council



General Review

Results of Operations in 1988

Benefiting from the continued healthy development in the business climate and the relative stability of exchange rates, our Company achieved gratifying results in 1988. This improved performance was reflected in a 7% sales growth to Hfl 16.6 billion and a 28% increase in net income (before extraordinary items) from Hfl 669 million in 1987 to Hfl 854 million. Capital investments remained at a high level, while a sound financial condition and ample liquidity were maintained.

Operating income was up 21% to Hfl 1,424 million, which is 8.6% of sales (1987: 7.6%).

All product groups showed a positive development. Chemical products registered exceptionally good results. Good results were also posted by coatings and healthcare products. Fibers clearly recovered from the unsatisfactory performance in the second half of 1987, although we view the present earnings level as still inadequate.

External Developments

In 1988 the world economy improved, while exchange rates and energy prices remained fairly stable. As a result of these factors the economic situation was generally healthy in 1988.

The rate of the U.S. dollar increased from Hfl 1.78 at year-end 1987 to Hfl 2.00 at December 31, 1988.

However, the period average of the U.S. dollar in 1988 was Hfl 1.97, down 3% from the average value of Hfl 2.03 in 1987.

Aided by the favorable economic conditions in the United States, our competitive position hardly changed in 1988.

Structural Development of Akzo

General During the year we continued our efforts to further improve Akzo's product mix and achieve a broader geographic diversification.

A number of acquisitions were made in 1988, although they were less spectacular in size than in the previous year.

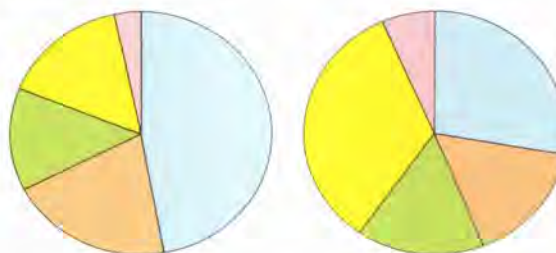
Good progress was made on the implementation of the corporate identity program. Initiated last year to present Akzo worldwide as a unified company, it also included a new house style and naming structure. Much effort will have to be expended on the follow-through of the program within the Company.

After a period of strong expansion, our R&D efforts are now at a level that matches our strategic objectives.

Progress Expenditures for acquisitions were substantially down from the previous year, but expenditures for property, plant and equipment were much higher. The figures for the last five years present the following picture:

Within the context of the Corporate Identity program a new symbol was introduced. Here the new sign is being mounted on one of our buildings in the United States.

Additions to PP&E and acquisitions at cost, less divestments at book value, 1984-1988



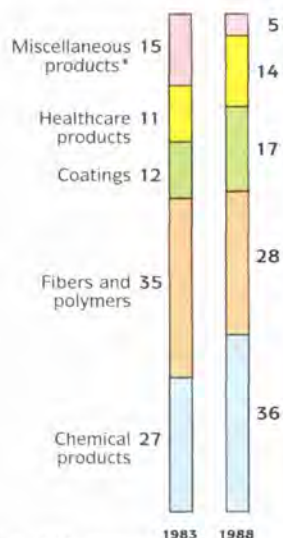
Breakdown by product group

(billions of guilders)	
Chemical products	3.4
Fibers and polymers	1.5
Coatings	1.0
Healthcare products	1.1
Miscellaneous products	0.5
	<u>7.5</u>

Breakdown by region

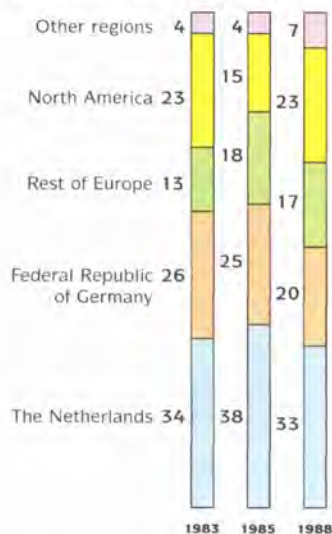
(billions of guilders)	
The Netherlands	2.0
Federal Republic of Germany	1.2
Rest of Europe	1.1
North America	2.5
Other regions	0.5
	<u>7.3</u>

Product mix, in net sales terms (as %)



* in 1983 including consumer products

Geographic distribution, in invested capital terms (as %)



Our product mix in net sales terms was essentially the same as it was at year-end 1987.

Progress by Product Group

Chemical Products Final approval was obtained from the U.S. Department of Justice early in 1988 for the acquisition of the salt operations of Diamond Crystal. As a result of this acquisition, our salt activities in the United States became less dependent on sales of deicing salt. During the year Diamond Crystal was integrated into the existing salt activities. Stauffer's specialty chemicals business and Vulnax, both acquired in 1987, were integrated into the chemical division. In 1988, Stauffer Australia, mainly a producer of paper chemicals, was acquired. Substantial investments were made in plants for peroxides, Ziegler-Natta catalysts, and rubber chemicals.

Fibers and Polymers In the year under review the business unit organization announced in 1987 was introduced. Capital investments continued at a high level. The production of polyester textile filament and staple in the Netherlands, the Federal Republic of Germany, and Spain was further modernized. Expansion projects for man-made fibers are under way or in preparation at our affiliated companies in Latin America and India. The incorporation of a joint venture for reinforced engineering plastics in the Republic of Korea helped improve our position in the field of advanced materials.

Coatings Integration of companies acquired in recent years continued. In

1988 and early 1989 three small companies were acquired—one in Mexico and two in the United States. At January 1, 1989, the remaining shares of the Spanish-based company Procolor were acquired.

Substantial amounts were invested to improve production, distribution, and research facilities, in particular in the Netherlands, the United Kingdom, the United States, and Brazil.

Healthcare Products In the healthcare sector, integration of the acquired companies also continued. In 1988 we acquired the veterinary activities of the Dutch company Gist-brocades and the generic drugs company My-K in the United States. Additions to property, plant and equipment were mainly made in the Netherlands and the United States.

Miscellaneous Products The production facilities of Barmag (machinery) were further modernized. The activities in the field of electronic materials were expanded.

Dividend Proposal Net income per common share of Hfl 20 was Hfl 20.94, compared with Hfl 23.43 in 1987. Excluding extraordinary items, per share income was Hfl 21.22, against Hfl 16.63 in 1987. Net income on a current-value basis—likewise exclusive of extraordinary items—was Hfl 18.34 in 1988 and Hfl 14.77 in 1987. Stockholders' equity per common share at December 31, 1988 stood at Hfl 106.61, compared with Hfl 94.80 at year-end 1987.

We will propose at the Annual Meeting of Stockholders that the 1988 dividend be fixed at Hfl 7.50 per common share. Of this amount, Hfl 1.50 was declared and made payable as an interim dividend in November 1988.

We will also propose that stockholders may choose to receive the final dividend of Hfl 6.00 in cash or entirely in common stock chargeable to additional paid-in capital or, at stockholder's option, to other reserves. In order to make allowance for changes in the price of Akzo N.V. stock the proposal concerning the stock dividend rate will be drafted on April 27, 1989 and submitted for approval by stockholders at the Annual Meeting of Stockholders to be held on that date.

If the dividend proposal is adopted, Hfl 302 million (36%) of net income will be allocated for dividend payment, and an amount of Hfl 541 million will be retained.

Outlook for 1989 In giving our outlook for 1989 we assume that the healthy economic climate will continue and that there will be no material changes in exchange rates. Under these assumptions, we believe that 1989 earnings will be at least on a par with the prior year figure. We base this forecast on sustained growth for chemical products, coatings, and healthcare products, as well as on a further improvement in earnings for fibers and polymers as selling prices are beginning to rise. Our projection also takes account of synergism effects of acquisitions and the returns from high capital expenditures made in the last several years. A negative influence may be exerted by the difficult economic situation in Latin America.

Expenditures for property, plant and

equipment in 1989 should be at about the same high level as in 1988.

Apart from the Australian dollar loans contracted in early 1989, only limited operations in the capital market should be needed to finance the existing activities. We will continue to utilize suitable opportunities to further improve our debt portfolio.

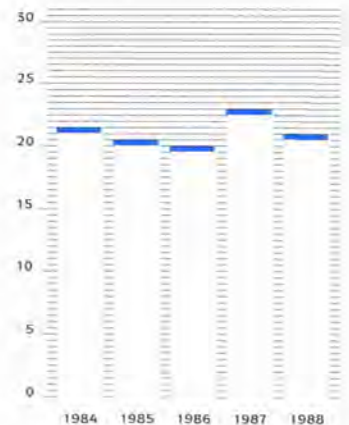
Setting aside any changes due to acquisitions, we expect no appreciable growth in the number of employees.

Sales and Income

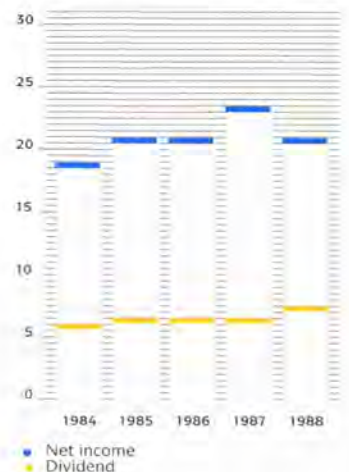
1988 Net Income In 1988 we achieved a net income of Hfl 843 million. The 1987 net income of Hfl 942 million included an extraordinary gain relating to the sale of our 51% stake in the consumer products division. Without extraordinary items, net income amounted to Hfl 854 million against Hfl 669 million in 1987, an increase of 28%.

Net income in 1988 as a percentage of stockholders' equity totaled 20.8% (1987: 23.2%; excluding extraordinary items 16.5%).

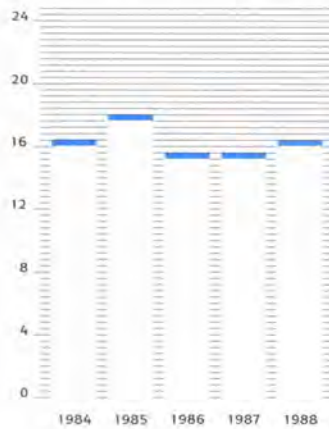
Net income, as percentage of average stockholders' equity



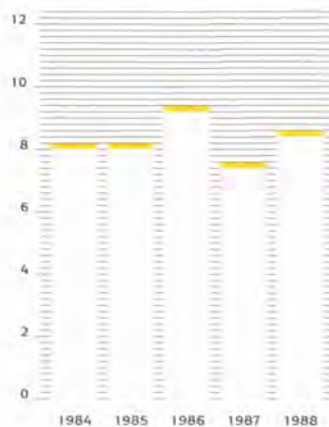
Net income and dividend per common share of Hfl 20, in guilders



Net sales, in billions of guilders



Operating income, as percentage of net sales



Condensed Statement of Income

Millions of guilders	1988	1987
Net sales	16,581	15,535
Operating costs	(15,157)	(14,354)
Operating income	1,424	1,181
Financing charges	(255)	(147)
Operating income less financing charges	1,169	1,034
Taxes	(409)	(367)
Earnings of consolidated companies from normal operations, after taxes	760	667
Earnings from nonconsolidated companies	123	53
Extraordinary items	(11)	273
Group income	872	993
Minority interest	(29)	(51)
Net income	843	942

Current-value information

Operating income	1,214	1,057
Net income	727	867

Sales At Hfl 16.6 billion, net sales were 7% higher than in 1987 (Hfl 15.5 billion). This increase is the net effect of volume gains (6%), higher selling prices (4%), and acquisitions (6%), and a decline (9%) due to the sale of the consumer products division. On balance, changes in exchange rates exerted little influence in 1988.

Operating Costs Operating costs were up 6% from the previous year. The rise in raw material prices, which began in 1987, continued more strongly. This was notably true of prices of raw materials for fibers and coatings, which mounted steeply. Energy costs decreased slightly. The costs of raw materials were 31% of sales (1987: 30% on a comparable basis). Energy costs expressed as a percentage of sales were 4.3%, against 4.4% in 1987. On average, labor costs were up 6% from 1987. The average number of employees was approximately 1% higher. Labor costs as a percentage of sales were 29.5%, compared with 29.8% in 1987.

Operating Income Operating income, which aggregated Hfl 1,181 million in 1987, rose to Hfl 1,424 million, an increase of 21%. Expressed as a percentage of sales, operating income advanced from 7.6% in 1987 to 8.6%.

Financing Charges Financing charges increased from Hfl 147 million in 1987 to Hfl 255 million. In 1987 and 1988, financing charges rose gradually, mainly because of the high level of capital investments. Another factor in this rise was strongly increased interest rates in several Latin American countries.

Taxes As in 1987, the average tax burden in 1988 was 35%.

Earnings from Nonconsolidated Companies Earnings from nonconsolidated companies were up sharply from the previous year. This is primarily the result of the healthy performances of the fiber operations in Latin America and India, as well as of the affiliated companies in the chemical sector. The improve-

ment is partially accounted for by the joint ventures that were involved in the Stauffer acquisition, since Akzo shared in their full 1988 earnings, whereas in 1987 only the results for five months were included in the figures.

Extraordinary Items Extraordinary items, on balance a loss of Hfl 11 million after taxes, primarily related to the creation of provisions for restructuring.

Net Income on the Basis of Current Value Net income before extraordinary items on the basis of current value was Hfl 738 million, as compared with Hfl 594 million in 1987.

Value Added Value added, defined as the aggregate amount of labor costs, financing charges, taxes, and Group income from normal operations, was Hfl 6,536 million against Hfl 5,926 million in 1987.

The share of labor costs in value added was 74.8% (1987: 78.1%).

Capital Investments Expenditures for property, plant and equipment totaled Hfl 1.3 billion (1987: Hfl 1.1 billion).

Expenditures for acquisitions aggregated Hfl 0.3 billion; proceeds of divestments involved a modest sum.

In 1987, expenditures for acquisitions amounted to Hfl 1.5 billion and proceeds of divestments to Hfl 0.6 billion. The most important acquisition in 1988 related to the salt interests of Diamond Crystal (salt and basic chemical division).

In 1988 the total amount of project authorizations was Hfl 1.1 billion, against Hfl 1.4 billion in 1987.

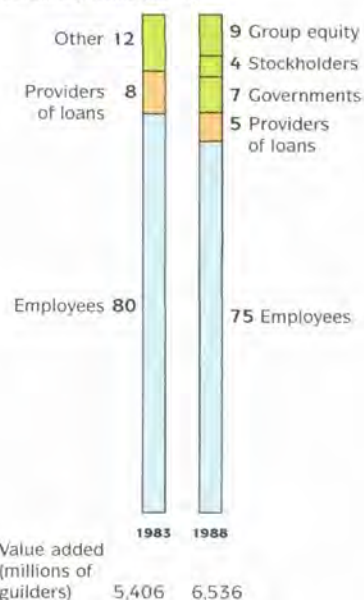
Capital investments by nonconsolidated companies, with total sales of Hfl 3.8 billion in 1988, amounted to Hfl 0.3 billion on a 100% basis (1987: Hfl 0.3 billion).

Financing

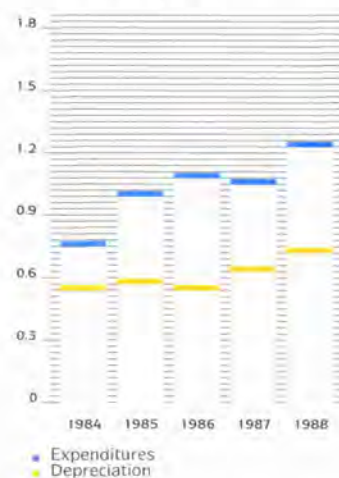
Condensed Statement of Sources and Applications of Funds

Millions of guilders	1988	1987
Sources of funds		
Group income	872	994
Depreciation	751	668
Cash flow	1,623	1,662
Other items	(153)	293
	1,470	1,955
Applications of funds		
Investments and acquisitions	1,618	2,702
Disposal of interests	(19)	(177)
	1,599	2,525
Change in working capital	244	157
Dividends paid	284	297
Other applications	6	50
	2,133	3,029
Deficit	(663)	(1,074)
Financing		
Issuance of stock, drawdowns, etc.	1,155	1,442
Repayment of borrowings, etc.	(467)	(526)
	688	916
Change in cash and short-term investments	25	(158)
Cash and short-term investments at December 31	951	926

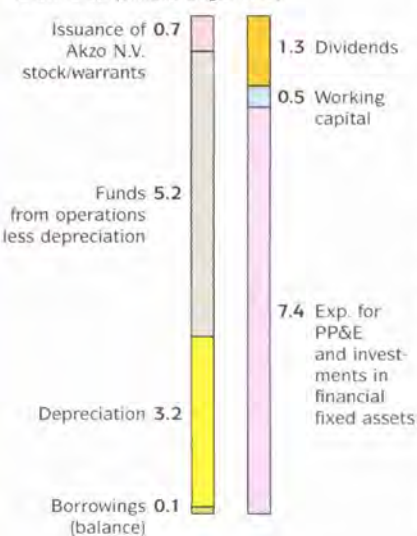
Shares in value added, exclusive of extraordinary items (as %)



Property, plant and equipment, in billions of guilders



Sources and applications of funds, 1984-1988 (billions of guilders)



An amount of Hfl 244 million was added to working capital, partly because of an increase in activities. Operational working capital (inventories and trade receivables, less accounts payable) expressed as a percentage of sales was 26% (1987: 25% on a comparable basis).

Interest-Bearing Borrowings As already stated in the previous Annual Report, we repaid in February 1988 the 1983/93 5⁵/₈% Sfr 100 million debenture loan before maturity. This loan was replaced with a new bond loan, likewise in the amount of Sfr 100 million, with a maturity of ten years and an interest rate of 4⁵/₈%. Furthermore, Akzo contracted five new loans in the aggregate amount of Hfl 845 million and with maturities ranging from 3 to 8 years:

- 6¹/₄% Hfl 200 million Euroguilder bonds 1988/95;
- 6% Hfl 200 million Euroguilder bonds 1988/96;
- 5³/₈% DM 200 million bonds 1988/93;
- 11% Can.S 60 million notes 1988/91;
- 7⁵/₈% ECU 50 million notes 1988/91.

The proceeds of the last two loans were swapped to floating rate guilder and U.S. dollar liabilities, respectively, and used to repay short-term debts. At year end, the amount of interest-bearing borrowings outstanding was Hfl 3,665 million (1987: Hfl 2,864 million).

During the year, 1,081 4³/₄% U.S. dollar convertible debentures were converted into 31,855 common shares of Hfl 20. The outstanding amount of the 1969 4³/₄% U.S. dollar convertible debenture loan was repaid at January 1, 1989.

At December 31, 1988 the Group equity/debt ratio was 0.51, against 0.52 at the end of 1987.

Early in 1989 two loans were contracted in the aggregate amount of Hfl 220 million:

- 14³/₈% AS 50 million notes 1989/92;

- 14⁵/₈% AS 70 million notes 1989/92.

The proceeds of these loans were swapped to floating rate U.S. dollar liabilities.

Credit Facilities At year end, the amount of credit available under long-term standby facilities was U.S.\$ 550 million, or Hfl 1,100 million (at the end of 1987: Hfl 625 million). The average life of the standby credit lines is 7 years.

In 1988, Akzo made active use of three commercial paper programs. The limit of the program set up in behalf of Akzo America Inc. with an Akzo N.V. repayment guarantee was extended from U.S.\$ 200 million to U.S.\$ 300 million. The limits of the Euro-commercial paper program (U.S.\$ 200 million) and the Dutch commercial paper program (Hfl 300 million) remained unchanged.

Warrants Of the 2,001,513 warrants issued in 1986, 710 were exchanged for common shares in 1988. Each warrant entitles the holder to a common Akzo N.V. share at the price of Hfl 120. This right can be exercised until September 30, 1991, while Akzo has the right to shorten this period with at least three months' prior notice.

Official Listing in the United States Early in 1989, Akzo began the registration procedures with the Securities & Exchange Commission

(SEC) that are required for an official listing in the U.S. securities markets. After registration has been granted, Akzo will apply for listing on Nasdaq, a computerized stock trading system. It is expected that this listing will become effective during 1989. Its aim is to expand the market for Akzo's shares.

To improve trading of Akzo stock in the United States, the unsponsored American Depositary Receipts (ADRs) that have been available for many years will be replaced by sponsored ADRs, with Morgan Guaranty Trust Company acting as depository. These ADRs will be issued for existing stock, with two ADRs representing one common share of Hfl 20.

Research and Technology In 1988, expenditures of the corporate and divisional research institutes totaled Hfl 923 million, compared with Hfl 811 million in 1987. After deduction of the cost of operational support and after addition of the cost of contract research, net R&D expenditures were Hfl 810 million (1987: Hfl 735 million).

Expressed as a percentage of sales, 1988 R&D expenditures were 4.9%, compared with 4.7% in 1987.

The number of employees engaged in R&D increased by 260 to 6,270 at December 31, 1988.

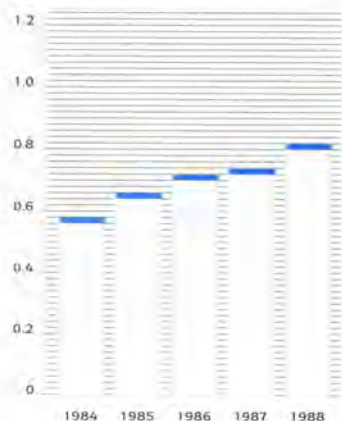
Following several years of accelerated expansion, R&D spending is now at a level that matches the Company's strategic objectives. Much of the increase in spending has been in the area of innovative research. As a proportion of sales, research efforts aimed at keeping existing products and processes up to date have shown modest growth in recent years.

Work in the field of polymers in the broad sense accounts for about half of

the total research program. In this broad definition the field comprises additives for the polymer industry, specialty monomers, polymers in the form of fibers and plastics, and polymer-based products such as plastic compounds, composites, membranes, and coatings. Obviously, such research is of importance to all product groups. End uses on which special interest is focused are advanced structural materials for the aerospace, automotive, and other industries, and electronic materials. Additionally, selective attention is devoted to products for other sectors, such as the rubber processing, packaging, and process industries, as well as health care.

A trend in innovation of the product mix that has become increasingly evident is for the application of special, tailor-made materials along with more traditional products. Such materials can be new polymers with special properties, as well as mixtures of polymers and polymers with inorganic chemical products or metals. Projects currently being pursued in our laboratories concern high-temperature polymers, optical polymers, blends and alloys, silica fibers, aramid-metal laminates, glassmat-reinforced thermoplastic materials, and ceramic materials. While the properties of the individual components of composites are important, optimization of the composite material as such plays a key role. Compatibility, adhesion, and surface modification are crucial parameters whose manipulation

Research and development expenditures, in billions of guilders



requires the availability of state-of-the-art analytical equipment. Topical issues in composites R&D include the adhesion of our reinforcing fibers to engineering plastics and the coloring of such plastics. Where we join forces with customers or users in the research phase, significant reductions can be achieved in the time it takes to develop new products. Some of this cooperative effort takes place in the context of national or European technology projects.

processability and reducing the pollution potential of the products. Good progress was made on the development of waterborne coatings: such products have now been developed both for manufacturing and for the car refinishing and construction industries. More knowledge was accumulated on the dispersion of pigments, leading to economies in production and higher product quality. A development of considerable potential brought new decorative effects to materials used in the construction and manufacturing industries.

Flammability test at the Dobbs Ferry research laboratory, New York, U.S.A.

Coatings research in 1988 again largely centered on optimizing



In pharmaceutical research, a study was initiated into complex carbohydrates that help regulate numerous biological processes in the human body. Unique carbohydrate structures discovered in recent years constitute the basis for the development of new cardiovascular and antiviral drugs. There are also indications that carbohydrates will come to play a significant role in contraception and immunology. The first result of R&D in this area is a new synthetic heparin, to be clinically tested for its efficacy as an anticoagulant.

For nondrug applications, more attention is also being given to natural materials. Thus, cellulose research was intensified a few years ago. In 1988 most of the effort centered on membranes. Chemical modification of the cellulose proved successful in improving the biocompatibility of dialysis membranes. Expectations are that innovations will be realized in other cellulose-based products as well.

Further data on specific developments and projects can be found in the appropriate product group sections.

Safety, Health, and the

Environment In the year under report, measures were adopted to enhance the care of safety, health, and the environment in the Company. These measures were in part based on the Company's rules of conduct, as revised in 1987.

Three Dutch locations carried out projects resulting in all-inclusive environmental management systems that are an integral part of the operational management system. The experience accumulated in these projects will be used in the next few years to assist implementation of environmental management systems in all manufacturing locations. Similar projects in the field of industrial and occupational hygiene are now in progress. At several locations, possible exposure of workers to chemicals is being charted. The results of these surveys will be used to set up systems providing control over labor hygiene, as well as for selective health monitoring. Safety at the workplace is also accorded greater emphasis.

With issues of safety, health, and the environment rising to greater prominence, the need to plan for the longer term is now more apparent than ever. The expense of further reducing the environmental impact of our manufacturing operations is considerable. We expect that in the next few years approximately 15% of Akzo's capital investment program will be reserved for environmental protection.

Given our increased commitment to environmental hygiene, and in light of recent advances in technology, the impact of operations on the environment can be reduced.

A spectacular instance of such reduction is the new thiuram plant at our Cologne (Federal Republic of Germany) location: more economical

raw material usage in a new manufacturing process reduced waste generation by more than 90%.

Besides its effects on process management, the concern for safety, health, and the environment also has growing implications for the product line. Some products may even be banned, one example being chlorofluorocarbons. On the positive side, the need to phase out certain products and processes may spur the development of new ones, thereby presenting fresh opportunities to the Company.

Human Resources At December 31, 1988 the number of employees was 71,100, representing an increase by 3,700 relative to the 1987 year-end figure.

<i>Number of employees</i>	<i>Dec. 31 1988</i>	<i>Dec. 31 1987</i>
Fibers and polymers division	30,600	30,300
Salt and basic chemical division	6,500	5,800
Chemical division	7,700	7,300
Coatings division	12,500	10,600
Pharma division	12,400	12,000
Other companies	1,400	1,400
Total	71,100	67,400

The increase in the number of employees is composed of internal growth by 700 and additions of 3,000 due to acquisitions.

Increases were particularly high in the salt and basic chemical division (with

the acquisition of Diamond Crystal's U.S. salt operations the biggest single item) and in the coatings division (mainly Tintas Ypiranga, Brazil, and General Paint, Mexico).

During 1988 further steps were taken to heighten the flexibility of the Company's employees as well as of Akzo as a whole. Company training programs thus increasingly seek to prepare people for prospective changes in the Company's organizational structure and for the changes in job content that often follow. To the extent that these programs provide reschooling and retraining, we find that they cater to a need which is rapidly spreading to all job levels.

In addition, progress was made on an interdivisional management development program outside the Netherlands, which centered on the Federal Republic of Germany and the United States. The move toward internationalization of management development programs is also increasingly apparent in corporate management training.

Both in the Netherlands and in the Federal Republic of Germany, efforts continued to advance the career opportunities of young people in industry by improving their skills level.

In the Netherlands, efforts are now also targeted at other categories, such as women re-entering the labor market and persons whose academic studies fail to match available jobs.

The action plans aimed at heightening quality consciousness have become integrated into the day-to-day conduct of business in large segments of the Company, notably in the Netherlands and in the Federal Republic of Germany.

The Corporate Identity program implemented in 1988 has clarified the Company's objectives and its style of doing business. It should thus help the Company function more smoothly.

We thank all our employees for their hard work, which has been a key factor in 1988's fine results.

Product Groups

Beginning with the 1988 Annual Report, the division into product groups has been modified. Thus certain product sectors previously accommodated under Miscellaneous Products are now included in Fibers and Polymers. Miscellaneous Products in the new definition almost entirely consists of mechanical engineering products, including machinery, and electronic materials.

The comparative figures for 1987 have been adjusted to reflect this change.

The statistics presented below illustrate the relative importance of the individual product groups in terms of net sales, operating income, invested capital, and expenditures/depreciation in respect of property, plant and equipment. The tables adopt a separate presentation of the figures of ongoing operations and of those of the consumer products division sold in 1987.

Net sales		Operating income		Invested capital*		Property, plant and equipment Expenditures		Depreciation		Millions of guilders
1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	
6,020	4,651	700	470	3,455	2,765	432	363	325	274	Chemical products
4,678	4,291	195	129	2,464	2,329	481	366	250	213	Fibers and polymers
2,794	2,415	210	164	1,291	1,089	158	140	76	68	Coatings
2,412	2,218	335	330	1,390	1,152	159	152	73	66	Healthcare products
888	844	15	42	310	288	40	48	27	25	Miscellaneous products
16,792	14,419	1,455	1,135	8,910	7,623	1,270	1,069	751	646	Intra-Group deliveries, nonallocated items
(211)	(250)	(31)	(41)	(167)	(20)					
16,581	14,169	1,424	1,094	8,743	7,603	1,270	1,069	751	646	Consumer products
	1,366		87				26		22	
16,581	15,535	1,424	1,181	8,743	7,603	1,270	1,095	751	668	Total

The terms and conditions for intra-Group deliveries are negotiated at arm's length and therefore are, in principle, identical with the ones used in transactions with third parties. International intra-Group deliveries

and international deliveries within a single product group are made in accordance with standard procedures that take due account of tax, currency, and pricing regulations in force in the countries concerned.

Operating income as % of net sales		Operating income as % of average invested capital		Net sales/av. invested capital ratio		Expenditures/depreciation ratio		Ratios
1988	1987	1988	1987	1988	1987	1988	1987	
11.6	10.1	22.5	18.2	1.94	1.81	1.3	1.3	Chemical products
4.2	3.0	8.1	5.8	1.95	1.92	1.9	1.7	Fibers and polymers
7.5	6.8	17.6	15.2	2.35	2.24	2.1	2.1	Coatings
13.9	14.9	26.4	29.7	1.90	2.00	2.2	2.3	Healthcare products
1.7	5.0	5.0	16.5	2.97	3.32	1.5	1.9	Miscellaneous products
8.6	7.7	17.4	15.2	2.03	1.97	1.7	1.7	Consumer products
	6.4		29.7		4.65		1.2	
8.6	7.6	17.4	16.1	2.03	2.12	1.7	1.6	Overall ratio

* Total assets of consolidated companies, less cash and short-term investments, and less other current liabilities.



Chemical Products

General Total sales of chemical products were up 29% from Hfl 4,651 million in 1987 to Hfl 6,020 million in 1988. This gain was led by acquisitions, but higher volume and selling prices also had a positive influence.

Operating income was Hfl 700 million, up 49% from the previous year when it was Hfl 470 million. Expressed as a percentage of sales, operating income increased from 10.1% in 1987 to 11.6% in 1988.

Salt and Basic Chemicals Sales of salt and basic chemicals aggregated Hfl 2,618 million, as compared with Hfl 2,034 million in 1987. This 29% increase was due to a 9% volume gain and price increases for a number of products, and also to the acquisition of the salt interests of Diamond Crystal.

Salt The exceptionally mild winter had a strong negative impact on volume sales of deicing salt, both in Western Europe and in the United States. As competition intensified in some industrial end-use areas because of imports of low-quality salt, earnings in the salt sector were lower than in the previous year. Early in 1989 it was decided to renovate and modernize the Hengelo salt processing plant, which should strongly improve our competitiveness in the field of salt specialties.

During the year we merged the activities of our U.S. salt companies, International Salt and Diamond Crystal. In the United States we now

have a versatile and dynamic salt company that occupies a strong position in the U.S. market.

Chlor-Alkali Products The demand for PVC continued to grow in 1988, resulting in higher prices and earnings. Plans to modernize the PVC plant of ROVIN, the VCM/PVC joint venture with Shell, are almost completed. The VCM/PVC industry continued its healthy performance because the supply and demand situation remained balanced. This balance can be maintained in the coming years if producers exercise restraint over capacity expansion plans.

For the chlor-alkali industry, 1988 was a favorable year, resulting in further improvement of selling prices, notably for caustic soda.

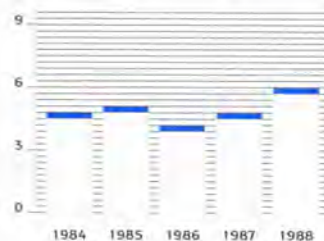
Soda ash continued its healthy performance.

Other Basic Chemicals The results of industrial colloids were again unsatisfactory in 1988 because of a persistent overcapacity situation. Work was started on further streamlining of production aimed at lower costs and improvement of product quality. In the United States a breakthrough was achieved in the application of industrial colloids in the processing of iron ore. In the Minnesota mining area a new plant has been constructed for the formulation of *Peridur*[®] ore pelletizer.

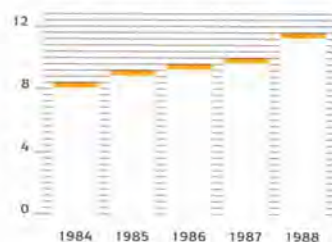
Storage of Gas in Salt Cavities We concluded an agreement with Gasunie that provides for the leaching out of salt deposits for gas storage in our Adolf van Nassau salt concession near Veendam, the Netherlands. The brine thus produced will be processed in our Delfzijl plants.

Joint Ventures Sales of the nonconsolidated companies in the

Net sales, in billions of guilders



Operating income, as percentage of net sales



In modern chemistry technologically advanced analytical equipment is indispensable; detail of the secondary ion mass spectrometer used at our central research laboratory in Arnhem.



Test drilling at our Adolf van Nassau salt concession near Veendam, the Netherlands, which showed the suitability of salt caverns for gas storage.

field of salt and basic chemicals amounted to Hfl 1,300 million, as compared with Hfl 970 million in 1987.

Earnings of Dansk Salt I/S (salt, Denmark) remained at an acceptable level.

As a result of the healthy business climate in the chlor-alkali industry, Elektro-Chemie Ibbenbüren GmbH (Federal Republic of Germany) posted substantially higher earnings. Results of Denak Co. Ltd (monochloroacetic acid, Japan) showed a healthy development.

Methanol Chemie Nederland v.o.f. (resins, the Netherlands) bolstered its position in the market for resins with low formaldehyde emission. In addition, a new type of resin for application in the fast-growing production of medium density fiberboard was developed and launched. The position in melamine urea formaldehyde resins for the production of moisture-resistant board was further expanded. Product development and application research will remain focused on high-performance resins.

For Methanor v.o.f. (methanol, the Netherlands) 1988 was a successful year because of the balance in supply and demand. Several producers faced persistent production problems, while demand was at a high level.

Specialty Chemicals Sales of specialty chemicals rose from Hfl 2,617 million in 1987 to Hfl 3,402 million in 1988, up 30%. This rise is primarily due to the acquisition of Stauffer's specialty chemicals business on August 1, 1987.

The Vulnax and Stauffer acquisitions required an adjustment of the organization of the chemical division,

which was completed in the first half of 1988. Simultaneously, the structure was revised to be more in line with the various markets served. Experiences with the new structure have been positive so far, due particularly to the fact that the worldwide market-oriented organization enables us to fully utilize the synergy potential of the Akzo and Stauffer activities.

Catalysts for the Petroleum and Petrochemical Industries

Low oil prices, vigorous competition, and the costs of market penetration in the United States exerted an unfavorable influence on the results of a number of catalysts for the petroleum industry. Good results, on the other hand, were achieved by catalysts for the petrochemical and chemical industries. Prospects for catalysts for the petroleum and petrochemical industries are favorable in the somewhat longer term. There is a continuing need for new catalysts for further improvement of products and process efficiencies and reduction of the environmental impact. Our research efforts are aimed at filling these needs.

With production plants for cracking catalysts in Europe, the United States, and Brazil, and for hydrotreating catalysts in Europe, the United States, and Japan, we hold a strong position in the world market for these products.

Chemicals for the Plastics Manufacturing Industries The plastics industry continued to enjoy a healthy business climate in 1988. As a result, shipments of organic peroxides, Ziegler-Natta catalysts, and other additives remained at a high level. Although feedstock prices were up, margins were not affected. Because of growing demand it was decided to expand peroxide capacity in Europe as well as in the United



States, Brazil, and Japan. The new production plant for Ziegler-Natta catalysts in Belgium came on stream in 1988.

Chemicals for the Rubber Processing Industries

As a result of continued demand from the tire industry, the performance of the rubber chemicals sector was better than expected. Volume gains were registered for accelerators, antidegradants, and fillers. In Deventer (the Netherlands), a new application laboratory for rubber chemicals is under construction, which will give us superior ability to engineer products to customers' specifications. Expansion of production capacity in Japan for *Crystex*[®] insoluble sulfur for

Crystex[®] insoluble sulfur is used as a vulcanization agent in the production of high-performance tires. Here a shipment is shown ready to leave the Monongahela, Pennsylvania, U.S.A., production site.

the vulcanization of rubber is under way. Also, a new production plant for this product is under construction in Brazil.

Chemicals for the Plastics-Processing and Coatings Industries

Volume sales in this sector were also at a high level, in particular for peroxides, stabilizers, flame retardants, and other additives. Margins remained stable.

High growth in the use of synthetic lenses for glasses made us less vulnerable to competition, resulting in a better performance of *Nouryset*[®] organic glass monomer.

The use of *Elate*[®] diisocyanates in the production of polyurethane prepolymers showed less progress than anticipated. The prepolymer pilot plant was commissioned in 1988.

Chemicals for the Detergent, Toiletries, and Cosmetics Industries

Business in this sector, which includes such products as laundry softeners and surfactants, was satisfactory. The systematic market-oriented approach of detergent manufacturers and the cosmetic industry should create new opportunities for our products.

Performance Chemicals In view of the growing demand for paper chemicals in Southern Europe, it was decided to increase production capacity by building a new plant in Spain.

In the United States, vigorous competition exerted a heavy pressure on selling prices, resulting in disappointing earnings in this sector. In Australia, we acquired Stauffer Australia Ltd, a company that mainly produces paper chemicals. As a result we now also have a chemical sales organization on this continent. The other products in this sector registered, in general, a satisfactory performance.

At Akzo Kashima Ltd, one of the Japanese-based companies in which we have held an interest since the Stauffer acquisition in 1987, electromagnetic compatibility testing has grown into a major activity in the last few years. As a result much know-how has been gained in the electronics field. As electromagnetic compatibility testing is expected to grow rapidly in Europe as well, these testing activities were also started in the Netherlands, based in part on the Japanese know-how. In the United Kingdom similar testing facilities are under construction.

Fine and Functional Chemicals

Earnings of fatty amines were depressed, reflecting keen competition for fatty acids, especially in Europe. Volume sales remained at almost the same level.

It was decided to expand and modernize the plant for sulfo products in Amsterdam.

Industrial Chemicals In general, this product sector showed a very satisfactory performance.

As a result of measures to reduce the depletion of the ozone layer, volume sales of chlorofluorocarbons (CFCs) and carbon tetrachloride will decline dramatically in the next few years. Efforts are now being made to find CFC substitutes that have very little or no harmful effect on the environment. A few years ago Akzo launched dimethyl ether as an alternative aerosol propellant. Plans for the construction of a 25,000 tons-per-

annum plant in Rotterdam are being prepared. This plant is slated to come on stream in 1990.

The search for CFC alternatives also resulted in the development of *Demeon*[®] 13/87, a refrigerant in which part of the CFC has been replaced with dimethyl ether.

Joint Ventures The joint ventures in the field of specialty chemicals achieved sales of Hfl 1,110 million, as compared with Hfl 780 million in 1987.

Selling prices of Silenka B.V. (glass fibers, the Netherlands) remained depressed, despite strong growth in glass fiber consumption in engineering plastics and in yarns and fabrics for the electronics industry. The capacity expansion was completed by year end. Kayaku Akzo Corporation (organic peroxides, Japan) turned in a distinctly improved performance. Excellent results were achieved by Tosoh Akzo Corporation (Ziegler-Natta catalysts, Japan).

In India, a project in the field of peroxides was started together with Century Enka Ltd.

The satisfactory development of Kali-Chemie-Stauffer GmbH (insoluble sulfur, Federal Republic of Germany) continued, but the results did not match the previous year's level. Construction of the cracking catalysts plant of FCC-Fábrica Carioca de Catalisadores S.A. (Brazil) will be completed in the first quarter of 1989. Nippon Ketjen Co. Ltd (hydrotreating catalysts, Japan) is still facing keen competition in its domestic market, while exports are being hampered by the strong yen.

The results of Lion Akzo Co. Ltd (fatty amines, Japan) are under pressure from international competition.

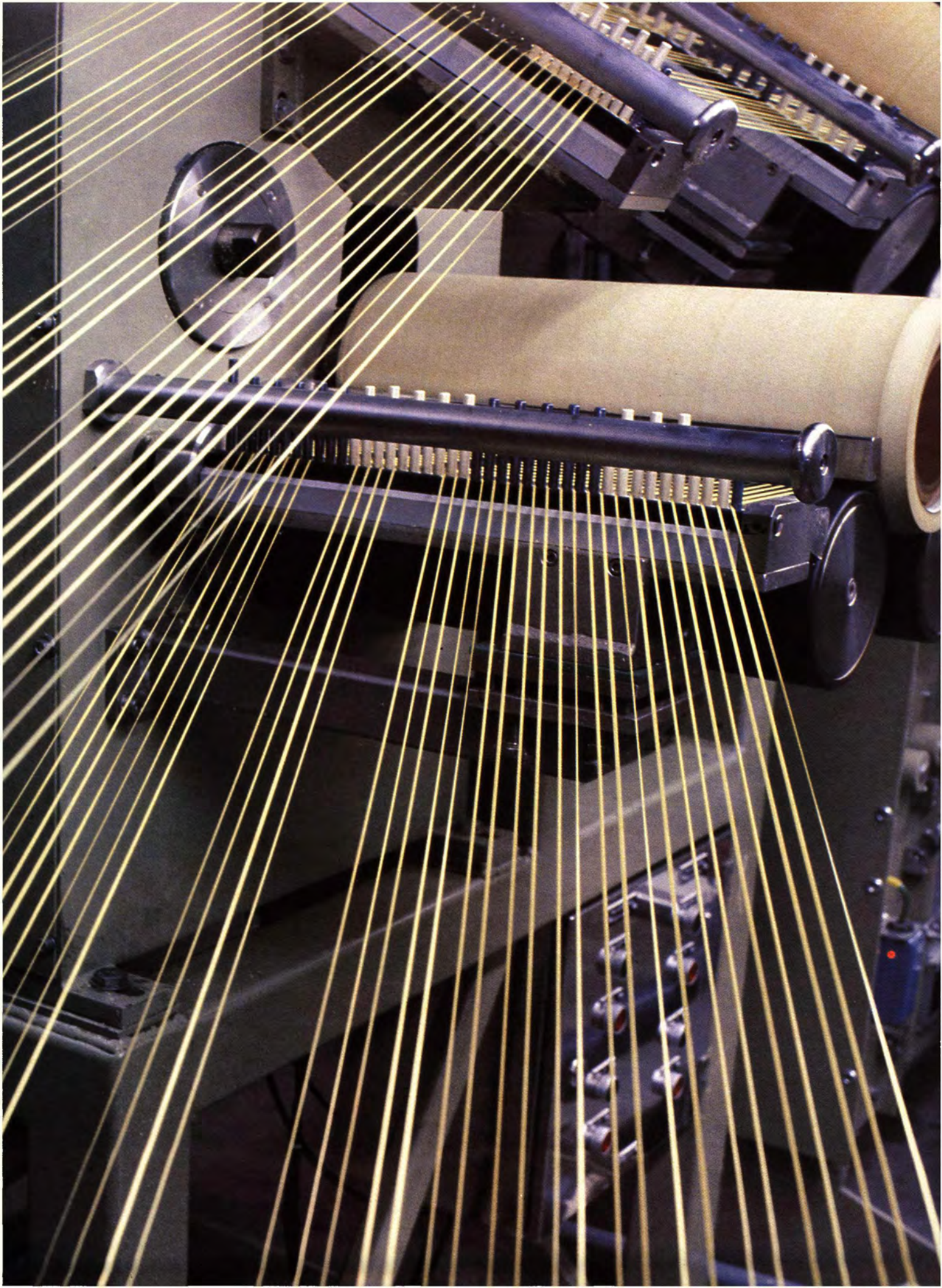
Earnings of Glucona v.o.f. (gluconates, the Netherlands) were constant at the



previous year's level, despite start-up costs of the modernized sodium gluconate plant.

The Texas Alkyls companies in the United States and Belgium (Ziegler-Natta catalysts) showed a satisfactory development, as did Alkyls do Brasil Ltda (Brazil).

Alkyls do Brasil Ltda is located in Paulinia, São Paulo, Brazil, and manufactures organo-metallic catalysts used in the production of plastics and gasoline additives, and for organic synthesis.



Fibers and Polymers

General Compared with the previous year, 1988 showed a significant upturn in the performance of fibers and polymers.

At Hfl 4,678 million, sales were up 9% from the 1987 figure. Shipments advanced 6%. For several products, particularly polyester, price increases were insufficient to offset entirely the higher cost of raw materials.

Operating income was up from Hfl 129 million in 1987 to Hfl 195 million this year, partly on account of high capacity utilization. Expressed as a percentage of sales, operating income increased from 3.0% in 1987 to 4.2% in 1988.

At our Spanish, majority-owned subsidiary La Seda de Barcelona shipments increased, but prices were much depressed by intensified competition from other EC countries. Earnings remained unsatisfactory. Modernization of polyester staple production and improvements in infrastructure should curtail costs. Despite the adverse economic situation in Brazil, the majority-owned subsidiary Polyenka (polyester textile filament) made an improved contribution to earnings.

The results of the nonconsolidated companies in Latin America and India improved substantially.

Textile and Carpet Fibers Sales in this product sector totaled Hfl 1,975 million in 1988 (1987: Hfl 1,821 million). Operating income was up from the previous year's level.

During 1988 the market for textiles gradually firmed up, spurred by the current fashion trends in apparel that brought about a shift in favor of man-made fibers. Imports from low-cost countries continued to be high. In mid-1988 the dumping of polyester filament and staple on the European market was temporarily halted.

Concurrently, the growing shortage of polyester feedstocks and the consequent sharp increase in raw material prices ended the global price war in polyester filament and staple. This sharp rise in raw material prices, which was also in evidence in Western Europe, could only partially be passed on to the customers.

Demand for polyester filament surged as early as the spring of 1988. The modernization of the polyester spinning facility in Oberbruch (Federal Republic of Germany) is on schedule.

The modernization of the polyester staple production line in Emmen (the Netherlands) was completed.

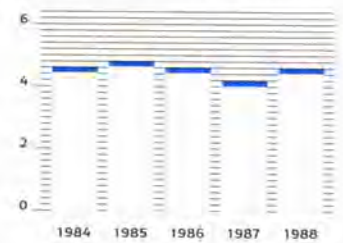
Production of polyamide textile filament at Emmen will be discontinued during 1989, as scheduled.

Demand for rayon filament for both outerwear and lining fabrics continued undiminished and in 1988, as in the prior year, orders could not always be filled.

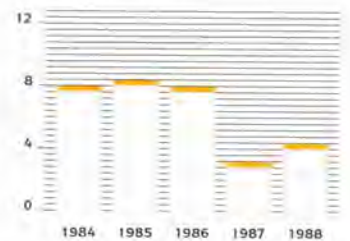
Sympatex[®] weatherproof and breathable comfort liner for clothing and footwear is doing exceptionally well in the Western European market. The product is now also available in the United States, and its commercialization in Japan was begun.

The Western European market for carpet yarns showed a favorable development, in which we shared. In the contract sector (carpet yarns for offices, schools, hotels, etc.), we could further strengthen our position. Earnings were again higher, because of such factors as newly developed products, further specialization, and improved customer service.

Net sales, in billions of guilders

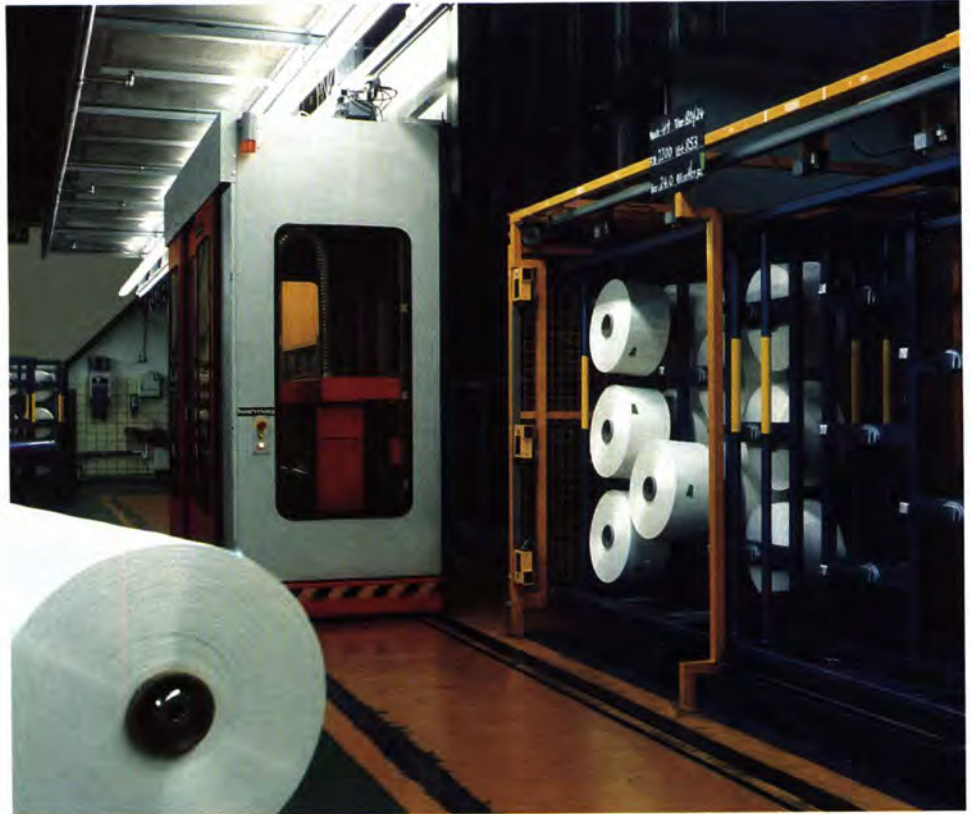


Operating income, as percentage of net sales



Production of Twaron[®] aramid fiber in the Emmen, the Netherlands, plant. This high-performance fiber finds many applications, for instance in sporting goods, in aerospace, and in the automotive industry.

A major modernization program is under way in our Oberbruch, Germany, polyester plant. A computer-controlled robot takes 25-kg Diolen® polyester yarn bobbins from the spinning machines and after sorting transfers them to the appropriate position.



Modernization of carpet yarn production at Emmen continued.

Fibers for Industrial Uses Sales of industrial yarns registered Hfl 1,432 million, against Hfl 1,340 million in 1987. This increase is attributable to an advance in volume sales, while selling prices were also up slightly. This and higher capacity utilization resulted in a higher operating income. Shipments to the tire industry, the principal market segment for industrial yarns, increased sharply. Viscose yarns, which are used in high-speed tires, benefited from this favorable development. As a result of the healthy situation in export markets, shipments of polyamide yarn and steel cord were up as well. Shipments of yarns for conveyor belts, transmission belts, and hoses were unchanged from last year's level. Earnings from polyester yarns were adversely affected by increased imports from the United States. While volume sales of yarns for ropes

and nets showed a sharp increase, consumption of sewing yarns weakened.

In the industrial fabrics segment, demand for special *Diolen*® polyester yarns for coated wide fabrics exhibited further growth. The demand for yarns for narrow fabrics, particularly *Diolen*® for car seat belts, also continued to rise.

High-Performance Fibers Despite strong competition, business for *Tenax*® carbon fibers improved. This is a measure of the high quality of

production as well as of the research and development efforts invested in it. The trials for applications in composite materials for the aerospace sector continued smoothly. Furthermore, we added to our store of know-how by taking out a license for the manufacture of a carbon fiber precursor from our Japanese partner Toho Rayon Co. Ltd and by building a pilot plant for specialty carbon fiber types, which was completed at year end.

In 1988 we broadened our *Twaron*[®] aramid product range with new types. Our market positions, notably in Western Europe and Japan, were strengthened, while market penetration in the United States is to follow in the foreseeable future. Our aramid fibers are already sold to the automotive industry (tires, clutch pads, and brake linings), the aerospace industry (composites), the electrical/electronics industry (electric and optical cables), and to the mining and steel industries (conveyor belts, protective clothing); they are also used for seals, gaskets, expansion joints, and antiballistic material. Priority is now being given to further volume growth, end-use development, and the exploration of existing application fields. In addition, research efforts are directed toward the development of a new generation of aramid fibers with improved specific properties.

We completed the development phase of some component prototypes for the mechanical engineering industry using our high-performance *Tenax*[®] carbon fibers and *Twaron*[®] aramid fibers. We are now ready to start pilot production.

In May 1988, we reached an agreement with Du Pont that ended the long patent conflict over aramid fibers. The agreement provides for the reciprocal granting of licenses in the field of para-aramids worldwide.

Plastics Sales went up from Hfl 625 million in 1987 to Hfl 726 million this year. However, operating income failed to meet expectations, because of the sharp rise in feedstock prices. Shipments of engineering plastics, in particular fiber-reinforced products, developed satisfactorily both in Europe and the United States. The principal outlets are the electrical/electronics and automotive industries.

Our position in the Far East was consolidated through the formation of a joint venture with Kohap Ltd in the Republic of Korea, which will be entrusted with the production and sale of engineering plastics compounds. Production is scheduled to start in late 1989.

The performance in the sector of color concentrates was satisfactory. For this activity, too, we are seeking further expansion worldwide.

In the year under review, we developed some interesting options in the field of coextruded multilayer tubing for the production of plastic bottles with superior barrier properties for liquids such as top-quality juices, beers, and sauces.

Membranes Sales in 1988 totaled Hfl 223 million (1987: Hfl 226 million). Operating income likewise remained virtually unchanged. Worldwide pressure on healthcare costs was also felt in the medical membranes sector.

For the principal end use, hemodialysis, good progress was recorded in the development of the *Hemophan*[®] High-Performance membrane and the cellulose acetate



A growing number of automotive parts are made of plastic. Other industries are also making increasing use of plastics.



Sportswear with Sympatex® impermeable windproof and breathable liner is resistant to all weather conditions.

membrane. Both membranes are scheduled to be launched soon. This development should enable us to maintain our strong position in this market, where innovation and product differentiation play a crucial role. Business prospects of *Oxyphan*® membranes for artificial lungs are favorable. The program was successfully rounded off with the development of a fully synthetic capillary heat exchanger that operates at body temperature. Customers are currently supplied direct from the pilot plant, but a full-scale production facility for *Oxyphan*® membranes is under construction.

Nonwovens Shipments of nonwovens for industrial applications recorded a further increase, especially in roofing and flooring. Operating income was satisfactory. With the prospects for these products continuing to be good, preparations are under way for a further expansion of production capacity.

Sales and operating income for household products, such as chamois, sponges, and household cloths, were distinctly higher this year. In January 1989, Akzo and Carl Freudenberg & Co (Federal Republic of Germany) signed a letter of intent for the incorporation of a 50/50 joint venture, with Akzo bringing in its household products.

Industrial Systems, where our civil engineering activities are concentrated, enjoyed a favorable year. Major products are *Enkamat*®, *Enkadrain*®, and *Stabilenka*®, whose uses are predominantly in soil stabilization, hydraulic engineering, and road construction. The position of this still young sector was considerably strengthened in 1988 through the acquisition of Geomatrix Systems in the United States.

Development Products The *Accurel*® system developed jointly with the chemical division permits a

considerable increase in the additives charging capacity of polymers. The line of products based on this system will be marketed by the chemical division under the *Nourymix*® label. In conjunction with Hollandse Beton Groep we developed *Arapree*® prestressed concrete using aramid in place of steel. This product was first used in a traffic noise abatement barrier; other applications are now being investigated.

In the pilot plant in Obernburg (Federal Republic of Germany) we successfully developed a high-grade silica yarn. The potential of this product is currently being investigated in the market, particularly for industrial applications where high heat resistance (up to 1100 °C) is required and for electronic composites such as printed wire boards.

Joint Ventures Sales of the nonconsolidated fiber manufacturing companies increased by 20% to Hfl 1,060 million (1987: Hfl 880 million).

While the situation has improved, Aramide Maatschappij v.o.f. (aramid fibers, the Netherlands) has not yet emerged from the start-up phase. Through Nippon Aramid Co. Ltd (Japan), the aramid yarns produced in the Netherlands were successfully introduced to several important customers in the Japanese market. Earnings of COBAFI S.A. (industrial yarns and fabrics, Brazil) improved, partly as a result of price adjustments; this particularly applies to the first six months of 1988. A capacity expansion for industrial polyester yarns is being planned.

The satisfactory development of business of Enka de Colombia S.A.



continued in 1988. Polyester polymer and staple manufacturing capacity will be expanded.

Full production capacity utilization at Fibras Químicas S.A. (textile and industrial yarns, Mexico) resulted in higher earnings. Major expansion investments were approved for a number of products.

Despite the adverse economic situation, the performance of Enkador S.A. (Ecuador) was relatively healthy. This company, too, obtained approval for a polyester production capacity expansion.

Shipments, sales, and earnings of Century Enka Ltd (India) showed a satisfactory development, reflecting

the favorable economic situation. The major production capacity expansion for polyester textile filament is nearing completion. A plan for enlargement of the tire yarns and fabrics production capacity was approved. Further expansion plans for textile filament and other industrial products are in preparation.

Mexican-based fiber producer Fibras Químicas S.A. enjoyed a favorable year.



Coatings

General Sales rose from Hfl 2,415 million in 1987 to Hfl 2,794 million. This 16% increase is attributable to improved selling prices, higher sales volume, and acquisitions. The volume gain is due in part to the mild winter weather in Europe in 1988. Operating income increased 28% to Hfl 210 million, as compared with Hfl 164 million in 1987. Expressed as a percentage of sales, operating income was up from 6.8% in 1987 to 7.5% in 1988.

Most countries made contributions to the positive development of income, partly as a result of the specific market approach based on innovation of products and marketing concepts. Increases in raw material prices induced us to raise selling prices by a higher percentage than the general rate of inflation in order to maintain profit margins.

Earnings in Brazil were satisfactory but lower than in the previous year because of sharply higher inflation in that country.

In November 1988, Mexican-based General Paint Company was acquired. Based in Tlalnepantla (near Mexico City), this company produces mainly decorative paints.

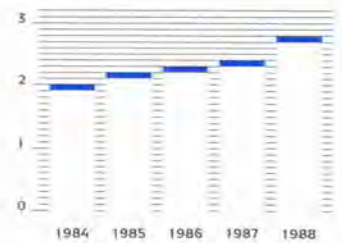
Capital Expenditures and Integration The companies acquired in 1985 and 1986 were further integrated. The distribution activities of Permoglaze, Sandtex, and Sikkens in the United Kingdom were combined. In Warrington a new distribution center was opened and

the plant in Hull was modernized. In Belgium the coatings activities in Ternat and Vilvoorde were concentrated in one company. In Brazil a start was made on the integration of Tintas Wanda and Tintas Ypiranga. The latter was acquired at the end of 1987. In January 1989 the new manufacturing complex in Orange (California) was inaugurated. All our coatings activities on the west coast of the United States are now concentrated there. These activities mainly concern aerospace finishes and car refinishes. In Pontiac (Michigan) ground was broken for the construction of a new manufacturing facility for topcoats for the car refinishes market. In Sassenheim a new laboratory was dedicated, where part of the research activities in the Netherlands have now been concentrated.

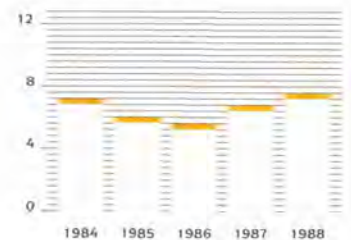
Decorative and Do-It-Yourself Paints Earnings in the maintenance and renovation sector in Europe showed an improvement. Volume sales gains were achieved in the European decorative paint market. Countries that made major contributions to this improved performance were the Netherlands, Belgium, the Federal Republic of Germany, France, and Italy.

To meet the demand for effect colors a new range of colors was launched in several countries under the brand name *Alphatone*[®]. Also, a computerized color mixing machine was successfully commercialized. Especially in Europe, energetic efforts were being made to strengthen our international position in this sector. Research continued to be focused on products and systems with greater durability and on reducing the use of

Net sales, in billions of guilders



Operating income, as percentage of net sales



Synthetic resins are a major raw material for coatings and printing inks.



Mixit® is an intelligent scale connected with a microcomputer that contains a database for the myriad colors in the car refinishes sector.

Akzo's new Corporate Identity made it necessary to clearly indicate the relationship between Akzo and Sikkens. This resulted in a new housestyle emphasizing Sikkens' image of good quality and a high service level.



solvents. Research was also conducted in the field of color and effect coatings. In several countries the Computer Aided Maintenance (CAM) system was introduced. This system provides great efficiency in the planning of exterior finish maintenance for buildings.

Car Refinishes In the car refinishes market we strengthened our position in various countries, including Spain, Italy, the United Kingdom, and the United States. In Canada, we acquired an import business that is now being integrated into Akzo Coatings Ltd, Toronto.

During 1988, *Autonova*®, a fully isocyanate-free refinish system, was launched in the European market. New product additions were made to the system, including *Novaflex*®. As in the United States, the first results in the European market are promising. For the production of *Autonova*® a new plant came on stream in Sassenheim (the Netherlands), which incorporates state-of-the-art automated production systems. The *Autobase*® system was completed, enabling us also to manufacture all nonmetallic colors in a basecoat/clearcoat system. In the sector of finishes for trucks and buses, *Autocoat BT*® was introduced. For this product a color-mixing machine based on sixteen mixing colors was developed.

In addition to the development of new products, much emphasis continued to be placed on the training of customers and employees and on service. This is reflected by the introduction of *Mixit*®, an intelligent

scale linked to a microcomputer containing a color database, whose hardware was developed in conjunction with the supplier. *Mixit*® introduces to body shops and distributors computer technology in the weighing and mixing of colors. In several countries, including the United Kingdom, Spain, and the United States, computer systems were installed to give advice on the optimal lay-out and equipment of body shops. The second mobile Car Refinishes Information Center in Spain was taken into use. In Montataire, France, work was started on the construction of a combined information center for car refinishes and decorative paints.

Industrial Coatings Healthy business at our customers in the automotive industry resulted in volume gains in automotive finishes. In various countries, such as France and Brazil, we were able to strengthen our market position. Our major European customers are currently making production trials with waterborne finishes based on unique proprietary technology. Following the success achieved in the last two years in the truck and bus sector in the United States, agreement was reached with a new customer in that country on the delivery of coatings on a just-in-time basis.

Because of the ongoing pressure of competition, higher raw material prices could not, or could only insufficiently, be passed on to customers, again resulting in inadequate profitability in the automotive finishes sector.

In the field of aerospace finishes, much effort was expended on a new generation of coatings that combine easy applicability and low environmental impact with excellent product properties.



In the coil coatings sector, much emphasis was placed on the development of new products and on quality improvement of the production process. In line with expectations, shipments to the preprimed steel industry showed a further decline. New products for coating galvanized steel are now in the testing phase. The market segment of coatings for other industrial applications fully met expectations. We were able to strengthen our positions in coatings for plastics and in waterborne products for this industrial sector.

Other Products Talens turned in a stable performance. Work was started on the modernization and restructuring of the plant in Apeldoorn (the Netherlands).

The synthetic resins sector showed healthy volume gains, both in Europe and in the United States. However, strong increases in raw material prices were not fully compensated in selling prices; consequently earnings were unchanged from 1987. On the Synthese synthetic resin manufacturing complex in the

Netherlands, a modern incinerator for waste materials was built. In addition, the production of acrylate resins was automated and the capacity for beam curing resins expanded. Service to customers was improved through modern logistics and quality guarantees.

In the field of resins in the United States, activities were taken over from the chemical division early in 1989. In the United States the position of printing ink resins was strengthened and expanded through the acquisition of two small companies.

Joint Ventures Industrias Químicas Procolor S.A. (Spain) continued its fine performance. Effective January 1, 1989, we increased our stake in Procolor from 50% to 100%. Income of this company in 1988 is still included in earnings from nonconsolidated companies. The other, small, nonconsolidated coating companies generally did well during the year.

In Spain the second mobile car refinishes information center was taken into use. Training courses and information about car refinishes can now be provided all over the country.



Healthcare Products

General At Hfl 2,412 million, 1988 sales represented a 9% advance on the prior year. This statistic includes the sales of My-K Labs (generics), of Morton Grove, Illinois, acquired in 1988, and the veterinary activities of Gist-brocades (the Netherlands). Net of acquisitions, growth amounted to 6%.

In contrast with the situation seen in 1987, sales in 1988 were only slightly depressed by changes in exchange rates. Operating income was ahead from Hfl 330 million in 1987 to Hfl 335 million in 1988. Operating income as a percentage of sales was 13.9% (1987: 14.9%). This slight dip percentage-wise is largely due to a further increase in research expenditures and to nonrecurring reorganization and integration costs of the companies acquired in the United States over the last few years.

Homonco Program Activities in the field of cancer research and cancer therapy were gradually intensified. Preclinical research based on human monoclonal antibodies is making particularly good progress. It will probably be several more years before it is clear whether these innovative therapies will be generally adopted. Following submittal of a registration file to the FDA in the United States in 1987, application was made in several other countries for approval of Onco-Tice for the treatment of cancer of the bladder.

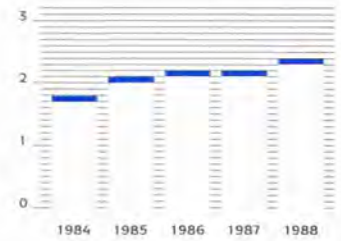
Ethical Drugs Organon realized satisfactory growth in most countries, a fact that had a positive effect on operating income relative to 1987.

Marvelon[®] oral contraceptive received increasing recognition from the international medical community, causing steady sales growth. *Mercilon*[®], a new oral contraceptive, which is unique in its sharply reduced estrogen content and in its excellent product properties, was launched onto the market. On the strength of these two products, Organon expects to further consolidate its position in the oral contraceptives market. After many years of research, *Livial*[®], a novel preparation for the treatment of post-menopausal disorders, was successfully introduced in the Netherlands.

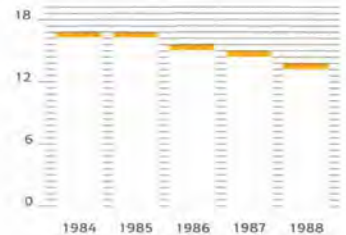
Products for the treatment of fertility problems, a field in which Organon is one of the two market leaders, registered higher volume sales. With many projects, both major and minor, now in the final stage of development, the appropriate R&D capacity had to be expanded, partly because requirements for registration of new drugs are becoming increasingly strict. We are furthermore working on plans that will provide research into promising new compounds with an additional impulse. Such plans call for greater efforts in the fields of carbohydrate chemistry, immunology, biotechnology, and the use of new computer models in the design of new drugs.

Notably in the Federal Republic of Germany and the Netherlands, government measures designed to promote substitution of cheaper generics for the products of the research-based pharmaceutical industry pose a threat to our future. We will be expanding our development activities in Japan and the United States. This buildup is expected to accomplish a significant expansion of Organon's market position in these countries. In the context of further internationalization

Net sales, in billions of guilders



Operating income, as percentage of net sales



Photomicrograph of the crystal structure of desogestrel, the active substance of Organon's oral contraceptive Marvelon[®].



With the Vironostika® Micro Elisa system, Organon Teknika has captured an important share of the market for HIV (AIDS) tests. Shown here is a model of the AIDS virus.

of Organon's position, we decided to build a new plant in Ireland.

Hospital Products For Organon Teknika the year was marked by integration and consolidation of activities, following strong expansion in the preceding years, for the greater part through acquisitions. Sales fell somewhat short of expectations because of pressure of competition and price erosion.

Some forty innovations and new products were commercialized. They included the successful *Coag-a-Mate*® XM as part of the hemostasis package, innovations in the hepatitis and AIDS diagnostic test lines, and new diagnostics for the food industry serving to detect Salmonella and Listeria bacteria. Furthermore, a few new biocompatible artificial kidneys were added to our range of dialyzers. The Micro Elisa equipment needed to run the Organon Teknika developed and patented Elisa technique was wholly redesigned. Since diagnostic practice in the laboratory tends increasingly to use special software, its design received particular emphasis. Several new programs could be offered to clinics.

Compliance with the requirements of the registration authorities, which, in the hospital sector as elsewhere, are becoming increasingly stringent, consumed much time and effort.

Applications for health registration were filed for the new, long-acting *Arduan*® muscle relaxant.

Ten locations in the United States acquired in the past few years were shut down as planned; the operations were transferred to the new Durham, North Carolina, location. The costs associated with these moves were substantially higher than foreseen and exerted a negative impact on Organon Teknika's operating income, which will be confined to 1988.

Concentration continued of Organon Teknika's activities at Boxtel, the

Netherlands. During the year the new manufacturing building was put into use. Construction of a new research center was begun.

Nonprescription Products Chefaro maintained sales at the prior year's level and improved its operating income.

Competition in home pregnancy test kits increased further, especially in Europe. In Japan the ban on public advertising for such tests remains in effect. As a result the Japanese market, in which *Predictor*® holds a leading position, cannot nearly compare with Europe or the United States in terms of size. In spite of such handicaps, Chefaro was able to accomplish a worldwide increase in volume sales of pregnancy tests compared with 1987.

Sales growth is slow of the new *Discretest*® ovulation test to help women conceive. However, the product has achieved a relatively good position in this market.

Vitamin sales continued their satisfactory growth, especially in the Netherlands.

Raw Materials for the Pharmaceutical Industry

The essentially stable position of the U.S. dollar brought some rest to the market. Ample supplies of almost all products frustrated Diosynth's attempts to realize the better prices it needs. Even so, sales and operating income were higher than in 1987.

A review of possibilities to achieve major improvements in environmental care at the Oss location (the Netherlands) resulted in a plan that secured the approval of the appropriate authorities, which will be carried out in 1989 and 1990.

A considerable community relations effort was made to inform nearby residents.

In the alkaloids product sector, sales

of morphine and codeine were constant at the prior year's level; prices remain depressed due to keen competition.

Biochemical products registered sharp sales gains in 1988, particularly in gonadotrophic hormones. Insulin and heparin sales were unchanged from 1987, but the unit cost of insulin was adversely affected by high pancreas prices. Sales revenue from heparin stabilized during the year, following a period of decline.

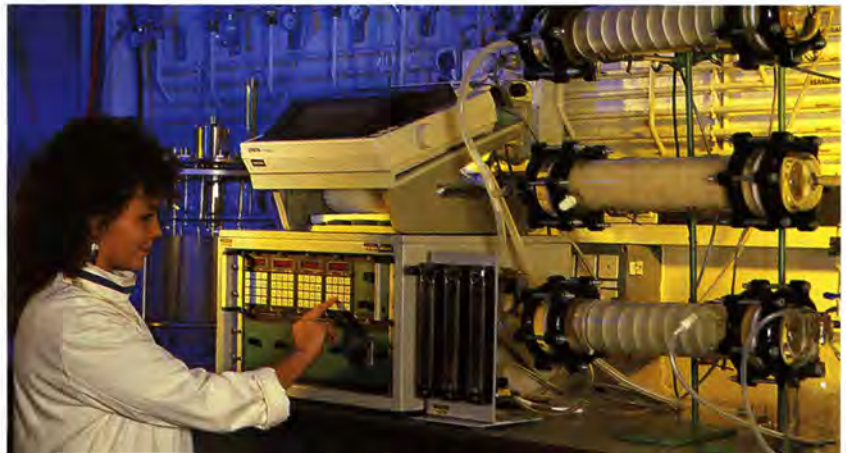
In the chemical products sector, sales of corticosteroids continued to go down in response to adverse market conditions. This drop was only partially compensated by sales gains for other products in this sector.

Generics To improve its position in the United States, the Company acquired the operations of My-K Labs, Morton Grove, Illinois, around the middle of the year. My-K specializes in the development, production, and marketing of liquid oral generics. These activities were merged with those of PBI, a previous Akzo acquisition. Sales and operating income of PBI showed a favorable development.

The range of products available for exportation to other countries was significantly expanded, which will doubtless lead to further growth in this sector.

Veterinary Products A major objective in 1988 was the integration of the newly acquired veterinary activities of Gist-brocades. Due to the acquisition of that company and to internal growth, sales surged ahead 25%. Operating income showed a further advance.

Many new products continue to



Dialysis reactor for the large-scale production of mammalian cells of constant quality.

emerge from the research stage. In the past year the first Intervet-label equine vaccine was thus launched. A sub-unit vaccine named *Nobi-vac*[®] Equeza, it is superior to existing products in that it offers effective protection against equine influenza without adverse inoculation reaction. In the hog sector, the market share was expanded of *Nobi-vac*[®] AR-T, a unique toxoid vaccine against atrophic rhinitis. Growth in cat and dog vaccines also continued at the same steady rate. Despite the imposition of regulatory controls on agriculture in many countries, Intervet expects its specialties to lead to further growth in the coming years.

Intervet's geographic base was broadened through the formation of a joint venture in Japan, Intervet Co. Ltd, with SDS Biotech Co. Ltd. In the United States the range of products will be gradually expanded through the addition of vaccines and medicines for hogs, cattle, horses, dogs, and cats.



Intervet's service and products in practice.

Miscellaneous Products

The activities reported on in this chapter almost exclusively concern the machinery and other engineering products of the fibers and polymers division, and the electronic materials manufactured by a majority-owned subsidiary.

Machinery and Other Engineering Products

Sales of the Barmag group in 1988 stood at Hfl 784 million, up 7% from the prior-year figure of Hfl 730 million. Shipments were down, and so was operating income. In textile machinery, Barmag's largest product sector, margins were under pressure; in addition, intensifying competition in the markets in the Far East is coming from Japan and the United Kingdom. Earnings of this business declined as a result of these factors.

Plastics machinery exhibited high growth; automotive products and hydraulic components also registered progress. Earnings in these businesses have distinctly improved.

Order backlogs for all product sectors are substantial.

In 1988 large amounts were again invested in the modernization of manufacturing equipment, logistics, and data processing systems.

Materials for the Electronics Industry

Work was intensified on the development of polyimide-metal laminates and gallium arsenide wafers. In some market segments polyimide-metal laminates were successfully introduced. The market position of gallium arsenide wafers was bolstered through a cooperation agreement with Showa Denko Co. Ltd. Recently we reached agreement with Kollmorgen Corporation, our partner in the field of electronic materials, to expand the existing activities relating to the production of printed wire boards based on the additive process.

Preparation of a custom-designed ultra-pure quartz ampule for gallium arsenide production.



Activities by Geographic Area

The statistics presented below concerning sales, income, invested capital, expenditures for property, plant and equipment, and number of employees of the *consolidated companies* illustrate the geographic pattern of Group operations. For a few significant ratios see the table at center.

These compilations adopt a separate presentation of geographic statistics and statistics pertaining to the

consumer products division sold in 1987.

To complete the global overview, a breakdown by relevant geographic area of sales, invested capital, and number of employees of the *nonconsolidated companies* (Group interest 50% or less) has been added.

The latter statistics are presented on a pro forma full-ownership basis in the table at bottom.

Consolidated Companies

Net sales by destination		Net sales by origin		Operating income		Invested capital*		Expenditures for property, plant and equipment		Number of employees, December 31		Millions of guilders
1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988	1987	
1,706	1,540	6,019	5,223	601	462	2,902	2,783	465	445	22,700	22,500	The Netherlands
2,692	2,597	4,179	3,959	261	240	1,785	1,714	282	232	19,700	19,600	Federal Republic of Germany
6,125	5,497	2,566	2,268	263	213	1,504	1,291	209	143	11,700	11,600	Rest of Europe
3,128	2,332	2,664	2,014	150	86	1,983	1,367	251	209	8,900	7,500	North America
2,930	2,203	1,153	705	149	93	569	448	63	40	8,100	6,200	Other regions
16,581	14,169	16,581	14,169	1,424	1,094	8,743	7,603	1,270	1,069	71,100	67,400	Consumer products
	1,366		1,366		87				26			
16,581	15,535	16,581	15,535	1,424	1,181	8,743	7,603	1,270	1,095	71,100	67,400	Total

Ratios of Consolidated Companies

	Operating income as % of net sales		Operating income as % of average invested capital	
	1988	1987	1988	1987
The Netherlands	10.0	8.8	21.1	17.4
Federal Republic of Germany	6.2	6.1	14.9	14.3
Rest of Europe	10.2	9.4	18.8	17.1
North America	5.6	4.3	9.0	7.0
Other regions**	12.9	13.2	29.3	25.2
	8.6	7.7	17.4	15.2
Consumer products		6.4		29.7
Overall ratio	8.6	7.6	17.4	16.1

Nonconsolidated Companies

Millions of guilders	Net sales by origin		Invested capital*		Number of employees December 31	
	1988	1987	1988	1987	1988	1987
Europe	2,086	1,605	1,192	1,188	3,000	2,800
North America	150	63	60	15	300	200
Latin America	772	667	657	615	6,200	6,000
Other regions	818	608	579	493	3,300	3,200
Total	3,826	2,943	2,488	2,311	12,800	12,200

* Total assets, less cash and short-term investments, and less other current liabilities.

** In appraising these ratios, due allowance should be made for the fact that operating income is to be reduced by high financing charges as a result of strong inflation.



This plant in St. Clair, Michigan, U.S.A., is one of the salt operations taken over from Diamond Crystal early in 1988.

Europe Aggregate 1988 sales of the consolidated companies located in Europe increased 11% to Hfl 12.8 billion. Operating income expressed as a percentage of sales was 8.8% (1987: 8.0%). The European companies employ 71% of the Group's total invested capital.

Sales in *the Netherlands* were 15% ahead to Hfl 6.0 billion. In sales terms, operating income increased from 8.8% in 1987 to 10.0% in 1988. With investments sustained at a high level, invested capital was up 4%. Expenditures for property, plant and equipment aggregated Hfl 465 million.

The Akzo companies in the *Federal Republic of Germany* registered 1988 sales of Hfl 4.2 billion, representing a 6% rise from the prior year. Operating income expressed as a percentage of sales advanced from 6.1% in 1987 to 6.2% in 1988. Invested capital was up 4%.

Expenditures for property, plant and equipment totaled Hfl 282 million.

Sales of the Akzo companies in the *rest of Europe* also grew; up 13%, the figure stood at Hfl 2.6 billion. Operating income as a percentage of sales was 10.2% (1987: 9.4%). Invested capital increased 16%. Expenditures for property, plant and equipment in 1988 came to Hfl 209 million.

In Spain, the remaining stock of the

Procolor paint manufacturing company was acquired at January 1, 1989.

It was decided in 1988 that Akzo will open an office in Moscow.

North America Sales of the Akzo companies in North America climbed 32% to Hfl 2.7 billion, chiefly as a result of acquisitions, including Stauffer in 1987 and Diamond Crystal in 1988. Operating income as a percentage of sales was 5.6% (1987: 4.3%).

The significant improvement in operating income reflects in part the impact of integration of the newly acquired activities. Earnings are still being adversely affected by restructuring measures, however. For the second year running, sales and earnings of deicing salt fell short of projected levels due to the mild winter.

Invested capital increased 45%. Additions to property, plant and equipment absorbed Hfl 251 million; they included a new plant for the manufacture of topcoats for the car refinishing market.

Furthermore, a few minor acquisitions gave added strength to our printing inks and pharmaceuticals positions in the United States.

Following amendment of the cooperation agreement with Kollmorgen Corporation, activities in the field of electronic materials were expanded.

Other Regions Both sales and operating income of our Latin American businesses mounted steeply. On the negative side, financing charges were also substantially higher as a result of sharply increased inflation in a number of Latin American countries. Nonetheless, the performance of the Akzo companies in

1988 was satisfactory. The nonconsolidated fiber companies in the region also did well.

Invested capital increased, partly due to capital expenditures for a new plant for *Crystex*[®] vulcanization agent in Brazil and extensions of manufacturing capacities of the nonconsolidated fiber companies in Colombia and Mexico.

In November 1988 the Mexican-based General Paint Company was acquired.

In 1988, our affiliates in Japan showed good progress generally, with results up. Further additions were made to activities in Japan, where peroxide and rubber chemical manufacturing capacities were expanded. A joint venture was established in the field of veterinary preparations.

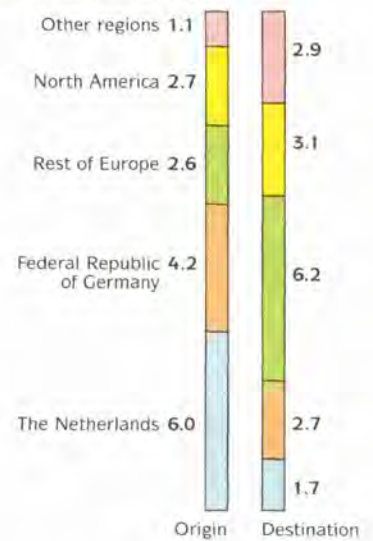
In the Republic of Korea a joint venture in the field of engineering plastics compounds was incorporated. Having acquired a majority interest in Develing Far East B.V., we now have four sales offices in the People's Republic of China; together they will henceforth operate under the Akzo name.

The favorable development at Century Enka in India gathered further momentum in 1988. Manufacturing capacities for polyester textile filament, tire yarns and fabrics were expanded, and plans for further expansions are on the drawing board. In Australia, Stauffer Australia Ltd was acquired; it produces mainly paper chemicals.

Arnhem, March 13, 1989

The Board of Management

1988 net sales, by origin and by destination (billions of guilders)



Akzo N.V.
Arnhem
The Netherlands

March 1989

Divisions

Products

Management

Fibers and polymers division
Wuppertal
Federal Republic of Germany

Fibers for industrial uses and textile uses, including carpets; advanced fibers for composites; engineering plastics; membranes; nonwovens; various industrial products and machinery

J.R. Hutter, President
U.G. Stark, Deputy President
J.H. Katgert
W.H. Meyberg
C.M. Vermeulen
H.G. Zengel

R. van den Berg
M. Schütze

Salt and basic chemical division
Hengelo
The Netherlands

Salt, chlorine, alkali products, VCM, methanol, urea formaldehyde resins, industrial colloids, organochlor compounds, organic amines, and raw materials for herbicides

F.A.G. Collot d'Escury, President
F.I.M. van Haaren
H.A. van Karnebeek

J.L. Ryon

Chemical division
Amersfoort
The Netherlands

Additives for the manufacture and processing of plastics and elastomers, and for the paint industry; functional chemicals such as sizes for the papermaking industry, sequestrants, laundry softeners and other surfactants, and nonflammable hydraulic fluids; catalysts for the oil, petrochemical, and chemical industries

J.C.P. van Oosterom, President
J.C.E. Fuller
E. Snoeck

C.S. Kent

Coatings division
Hoofddorp
The Netherlands

Paints, stains, and synthetic resins for industrial, professional, and consumer uses

C. Zaal, President
H.C. Bijvank
H.C. Ekker
J.D. Remijnse
M. Rooseboom
T.M. Tieleman

Pharma division
Oss
The Netherlands

Ethical drugs, nonprescription products, hospital supplies, diagnostics, raw materials for the pharmaceutical industry, veterinary products

A.G.J. Vermeeren, President
P.K. Brons
B.H.M. van Dommelen
T. Kalff
F.L. Vekemans

National Organizations

Akzo Nederland Arnhem, the Netherlands

A. van Es, President

Akzo America New York, United States

A.R. Dragone, President

Akzo België Brussels, Belgium

K. van Nierop, President

Akzo do Brasil São Paulo, Brazil

J.W. Bootz, President

Akzo Japan Tokyo, Japan

S. Matsubayashi, President

National Offices

Akzo Korea Seoul, Republic of Korea

W.E. Kulsdom

Akzo U.S.S.R. Moscow, U.S.S.R.

R. Bennema

Akzo China Beijing, Dalian, Guangzhou, Shanghai, People's Republic of China

R. Develing

Accounting Policies Used in Preparing the Consolidated Financial Statements

Consolidation

The consolidated financial statements include the accounts of Akzo N.V. and all companies in which the interest of Akzo N.V. or any of its majority-owned subsidiaries separately or jointly exceeds 50% of the subscribed stock.

Partnerships ("Vennootschappen onder firma") in which the interest of Akzo N.V. or any of its majority-owned subsidiaries separately or jointly equals or is less than 50% are not included in consolidation because of the absence of a controlling vote.

All of the assets, liabilities, and results of the consolidated companies are included.

Minority interest in Group equity and Group income is shown separately.

Valuation

The principles of valuation and determination of income used in the consolidated financial statements shown on pages 47 through 54 are based on historical cost. Current-value data are furnished by way of supplementary information on page 55.

Translation of Foreign Currencies

In the balance sheet, amounts in foreign currencies are translated into guilders at rates virtually equaling the rates of exchange in force at year's end. Where foreign exchange contracts have been concluded for long-term debt, translation is based on the rates of exchange stated in these contracts.

In the statement of income, amounts in foreign currencies are translated into guilders at rates of exchange fixed for each quarter as typical of the rates then applicable.

Foreign exchange differences are included in income, except for foreign exchange differences resulting from translation into guilders of intra-Group loans and of stockholders' equities of affiliated companies outside the Netherlands; the latter differences are directly added to, or deducted from, Group equity.

However, before being translated into guilders, the financial statements of

affiliated companies established in hyperinflationary countries are adjusted to reflect the effects of changing prices.

Exchange Rates of Key Currencies

The principal exchange rates against the Dutch guilder used in drawing up the balance sheet and the statement of income are:

	Unit	Balance sheet		Statement of income	
		1988	1987	1988*	1987*
U.S. \$	1	2.00	1.78	1.97	2.03
DM	1	1.13	1.13	1.13	1.13
£ stg	1	3.62	3.33	3.53	3.31
Fr. fr.	1	0.33	0.33	0.33	0.34
Sw. fr.	1	1.33	1.39	1.35	1.36
Belg. fr.	100	5.39	5.37	5.38	5.43
Sp. pes.	100	1.77	1.65	1.70	1.63
Yen	100	1.60	1.46	1.54	1.41
Braz. cruz.	100	0.26	2.46	0.69	4.77

* Period averages.

Principles of Valuation of Assets and Liabilities

Intangible fixed assets

Preparation and start-up expenses of large investment projects are capitalized and charged against operating income in not more than five equal annual installments after the facilities concerned have been put into service.

Other intangibles are not capitalized but are charged against operating income. Purchased goodwill is charged directly against Group equity.

Property, plant and equipment

Property, plant and equipment are valued at cost less depreciation.

Cost includes the financing charges of capital investment projects under construction. Capital investment grants are deducted from property, plant and equipment.

Depreciation is computed by the straight-line method based on estimated life, which in the majority of cases is 10 years for plant equipment and machinery, and which ranges from 20 to 30 years for buildings. In cases where the book value so computed exceeds the value to the business additional write-offs are made.

Financial fixed assets

Investments in nonconsolidated companies are stated at the amount of Akzo's share in stockholders' equity. The calculation of stockholders' equity is based as much as possible on the Akzo principles of valuation.

Loans to nonconsolidated companies are carried at face value less such provisions as are deemed necessary.

Other financial fixed assets are stated at face value, at cost, or at lower market value.

Inventories

Inventories are stated at the lower of cost or net realizable value. Cost is defined as the full manufacturing cost related to the stage of processing.

Cost is determined by the first-in first-out (FIFO) method. Provisions are made for obsolescence.

In the valuation of inventories, profits arising from transactions between consolidated companies are eliminated.

Receivables

Receivables are stated at face amounts less such provisions as are deemed necessary.

Cash and short-term investments

Cash and short-term investments are carried at face value, with the exception of marketable private borrowings and marketable securities, which are valued at the lower of cost or market.

Provisions

Provisions for deferred taxes are stated at face value.

Dividend taxes for which no compensation is available are taken into account to the extent of earnings expected to be transferred by affiliated companies in the new fiscal year.

The provisions in respect of pension rights are generally computed on an actuarial basis.

Provisions for commitments and risks whose extent is uncertain but which can

reasonably be estimated, and provisions made to equalize expenses among several fiscal years are shown in the aggregate under "Other provisions." The amounts of these provisions are fixed in relation to the liabilities and risks concerned and are stated at face value.

Long-term debt and current liabilities

Long-term debt and current liabilities are stated at face value.

Principles of Determination of Income

The determination of income is closely associated with the valuation of assets and liabilities.

In addition, a number of specific principles are observed in the preparation of the statement of income, which are set forth below.

– Net sales is defined as the revenue from the sale and delivery of goods and services, net of rebates, discounts, and similar allowances, and net of sales tax.

– Cost of sales comprises the manufacturing cost of the goods and services sold and delivered, and any inventory write-downs to lower net realizable value.

Manufacturing cost includes such items as:

- . the cost of raw materials and supplies, energy, and other materials;
- . depreciation and the cost of maintenance of the assets used in production;
- . salaries, wages, and social charges for the personnel involved in manufacturing.

– Taxes on income comprise both current and deferred taxes. No tax deductions are made from income to the extent that this income can be offset against losses incurred in prior years. From losses, taxes are deducted to the extent that they can be offset against taxes charged to income in previous years.

– Income from nonconsolidated companies consists of the Group's equity in earnings of these companies and interest on loans granted to them, with due allowance being made for taxes relating to these items.

Consolidated Balance Sheet of the Akzo Group

See notes on pages 50 through 53.

after allocation of profit

<i>Millions of guilders, December 31</i>	1988	1987
Assets		
<i>Fixed assets</i>		
Property, plant and equipment	5,557.5	4,795.2
Financial fixed assets		
– Nonconsolidated companies	703.4	629.8
– Other financial fixed assets	<u>143.8</u>	<u>162.3</u>
	<u>847.2</u>	<u>792.1</u>
	6,404.7	5,587.3
<i>Current assets</i>		
Inventories	2,996.8	2,567.8
Receivables	3,125.3	2,732.8
Cash and short-term investments	<u>951.2</u>	<u>926.2</u>
	7,073.3	6,226.8
Total	13,478.0	11,814.1
Group Equity and Liabilities		
<i>Group equity</i>		
Akzo N.V. stockholders' equity	4,290.2	3,811.6
Minority interest	<u>234.6</u>	<u>217.3</u>
	4,524.8	4,028.9
<i>Provisions</i>	2,206.7	2,266.6
<i>Long-term debt</i>		
Subordinated loans	114.8	145.4
Other long-term borrowings	<u>2,114.4</u>	<u>1,193.7</u>
	2,229.2	1,339.1
<i>Current liabilities</i>		
Short-term borrowings	1,436.3	1,524.7
Other current liabilities	<u>3,081.0</u>	<u>2,654.8</u>
	4,517.3	4,179.5
Total	13,478.0	11,814.1

Consolidated Statement of Income of the Akzo Group

See notes on pages 53 and 54.

<i>Millions of guilders</i>	<i>1988</i>	<i>1987</i>
<i>Net sales</i>	16,580.5	15,535.1
<i>Cost of sales</i>	(10,682.6)	<u>(9,880.2)</u>
<i>Gross margin</i>	5,897.9	5,654.9
<i>Selling expenses</i>	(2,875.7)	(2,953.6)
<i>Research and development expenses</i>	(809.8)	(735.4)
<i>General and administrative expenses</i>	(821.0)	(806.1)
<i>Other revenue from operations</i>	32.8	21.4
	<u>(4,473.7)</u>	<u>(4,473.7)</u>
<i>Operating income</i>	1,424.2	1,181.2
<i>Financing charges</i>	(254.8)	<u>(147.3)</u>
<i>Operating income less financing charges</i>	1,169.4	1,033.9
<i>Taxes</i>	(409.2)	<u>(366.4)</u>
<i>Earnings of consolidated companies from normal operations, after taxes</i>	760.2	667.5
<i>Earnings from nonconsolidated companies</i>	123.3	<u>52.7</u>
<i>Group income from normal operations, after taxes</i>	883.5	720.2
<i>Extraordinary items after taxes</i>	(11.3)	<u>273.3</u>
<i>Group income</i>	872.2	993.5
<i>Minority interest</i>	(29.5)	(51.5)
<i>Net income</i>	842.7	942.0

Consolidated Statement of Changes in Financial Position of the Akzo Group

See notes on page 54.

<i>Millions of guilders</i>	<i>1988</i>	<i>1987</i>
Sources of Funds		
Group income	872	994
Depreciation	751	668
Cash flow	1,623	1,662
Nonconsolidated companies	(52)	35
Changes in provisions	(140)	258
Other sources	39	-
	<u>1,470</u>	<u>1,955</u>
Applications of Funds		
Expenditures for property, plant and equipment	1,270	1,095
Investments in nonconsolidated companies	27	160
Acquisition of consolidated interests	315	1,402
Changes in other financial fixed assets	6	45
Disposal of interests	(19)	(177)
	<u>1,599</u>	<u>2,525</u>
Changes in working capital*	244	157
Dividends paid	284	297
Other applications	6	50
	<u>2,133</u>	<u>3,029</u>
<i>Balance of funds provided and funds used</i>	(663)	(1,074)
Financing		
Issuance of stock	4	8
Drawdowns	1,151	307
Repayment of long-term debt	(297)	(526)
Changes in short-term borrowings	(170)	1,127
	<u>688</u>	<u>916</u>
<i>Changes in cash and short-term investments</i>	25	(158)

* Inventories and receivables less other current liabilities, exclusive of dividends.

Notes to the Consolidated Financial Statements of the Akzo Group

General

Affiliated Companies

The principal affiliated companies at December 31, 1988, are listed on pages 67 and 68.

A list of affiliated companies, drawn up in conformity with Book 2 of the Dutch Civil Code, section 379, paragraph 1, and using paragraph 3, has been filed at the Trade Registry of Arnhem.

Changes in Consolidated Interests

In 1988 the veterinary activities of Gist-brocades, the Netherlands, the salt operations of Diamond Crystal Salt Company, United States, and the generics company My-K, United States, were acquired.

There were no other changes of significance to the financial statements.

Consolidated Balance Sheet

Property, Plant and Equipment

Millions of guilders	Total	Buildings and land	Plant equipment and machinery	Other equipment	Con-	Assets
					struction in progress and prepaid projects	not used in the production process
<i>Situation at</i>						
<i>December 31, 1987</i>						
Cost of acquisition	12,199.5	2,416.0	8,036.2	1,020.2	516.7	210.4
Depreciation	(7,404.3)	(1,183.6)	(5,414.9)	(643.0)		(162.8)
Book value	4,795.2	1,232.4	2,621.3	377.2	516.7	47.6

Changes in book value

Acquisitions and disposal of interests	154.8	53.7	94.4	5.7		1.0
Capital expenditures	1,270.3	262.5	707.8	160.4	135.0	4.6
Depreciation	(751.1)	(90.1)	(529.9)	(124.9)		(6.2)
Disinvestments	(40.5)	(5.1)	(20.3)	(5.9)		(9.2)
Changes in exchange rates	128.7	43.4	76.6	6.7		2.0
Other changes	0.1	(15.6)	10.4	2.4		2.9
Total changes in 1988	762.3	248.8	339.0	44.4	135.0	(4.9)

Situation at

December 31, 1988

Cost of acquisition	13,204.9	2,735.2	8,514.4	1,132.1	651.7	171.5
Depreciation	(7,647.4)	(1,254.0)	(5,554.1)	(710.5)		(128.8)
Book value	5,557.5	1,481.2	2,960.3	421.6	651.7	42.7

The book value of property, plant and equipment financed by installment buying and leasing was approximately Hfl 32 million at December 31, 1988 (at December 31, 1987: approximately Hfl 38 million).

Given their comparatively slight magnitude, preparation and start-up expenses, carried at Hfl 4.7 million at December 31, 1988 (at December 31, 1987: Hfl 12.4 million), were included in property, plant and equipment.

Financial Fixed Assets

<i>Millions of guilders</i>	<i>Total</i>	<i>Non-consolidated companies</i>	<i>Loans to non-consolidated companies</i>	<i>Other financial fixed assets</i>
Situation at December 31, 1987	792.1	597.9	31.9	162.3
Investments	92.1	49.2	4.3	38.6
Disinvestments	(89.9)	(0.4)	(26.2)	(63.3)
Equity in 1988 earnings	141.3	141.3		
Dividends received	(89.0)	(89.0)		
Changes in exchange rates	0.6	(6.2)	0.6	6.2
Situation at December 31, 1988	847.2	692.8	10.6	143.8

Inventories

<i>Millions of guilders</i>	1988	1987
Raw materials and supplies	771.0	612.6
Work in process	688.1	632.5
Finished products and goods for resale	1,527.3	1,313.3
Inventory prepayments	10.4	9.4
	2,996.8	2,567.8

Receivables

<i>Millions of guilders</i>	1988	1987
Trade receivables	2,776.2	2,341.1
Receivables from nonconsolidated companies	81.8	81.9
Other receivables	474.5	525.8
	3,332.5	2,948.8
Discounted portion	(207.2)	(216.0)
	3,125.3	2,732.8

Cash and Short-Term Investments

<i>Millions of guilders</i>	1988	1987
Short-term investments	835.0	743.1
Cash on hand and in banks	116.2	183.1
	951.2	926.2

Short-term investments almost entirely consist of cash loans, time deposits, marketable private borrowings, and debentures that are immediately convertible into cash.

Group Equity

<i>Millions of guilders</i>	<i>Akzo N.V. stockholders' equity</i>	<i>Minority interest</i>
Situation at December 31, 1987	3,811.6	217.3
Issuance of stock	3.9	
Cumulative preferred stock purchases	(0.0)	
Retained earnings	540.9	10.9
Changes in minority interest in Group companies		0.2
Goodwill	(169.3)	
Changes in exchange rates	103.1	6.2

Situation at December 31, 1988

For details on changes in Akzo N.V. stockholders' equity see the note to the Akzo N.V. balance sheet on page 58.

Provisions

<i>Millions of guilders</i>	1988	1987
Deferred taxes	323.1	316.4
Pension rights	1,124.7	1,070.8
Other provisions	758.9	879.4
	2,206.7	2,266.6

The current portion of provisions amounted to approximately Hfl 193 million (at December 31, 1987: approximately Hfl 355 million).

Provisions in respect of pension rights

Most Group companies have arranged appropriate pension plans for their employees, with due observance of the statutory regulations and customs in the countries concerned. The provisions in respect of pension rights relate to rights not covered by independent pension funds or by third parties. At December 31, 1988, as at December 31, 1987, the accumulated pension benefits were on balance fully covered by these provisions and by contributions paid into independent pension funds or to third parties.

Other provisions

The principal provisions are for the restructuring of activities. Other provisions also include amounts in respect of guarantees, and amounts providing coverage for losses, not otherwise insured, contingent upon the outcome of litigation.

Subordinated Loans

This item is composed of the amounts borrowed in respect of subordinated loans arranged by Akzo Nederland B.V., together with either Enka B.V. or Akzo Salt and Basic Chemicals Nederland B.V. Akzo N.V. has accepted joint and several liability for these loans. They are subordinated to all third-party debts of the companies named.

The interest rate averaged 11.0% (1987: 11.0%). Repayment is scheduled to be made in 1989 (Hfl 30.6 million), and in 1990 through 1992 (Hfl 84.2 million).

Other Long-Term Borrowings

Millions of guilders	1988	1987
Debentures		
– Issued by Akzo N.V.	1,227.8	413.0
– Issued by consolidated companies	43.4	38.7
Private borrowings	418.2	394.7
Debt to credit institutions	245.6	224.0
Other borrowings	179.4	123.3
	2,114.4	1,193.7

Aggregate maturities are as follows:

Millions of guilders	1989	1990/ 1993	after 1993
Debentures			
– Issued by Akzo N.V.	20.1	674.3	533.4
– Issued by consolidated companies		7.6	35.8
Private borrowings	113.8	230.0	74.4
Debt to credit institutions	72.3	138.9	34.4
Other borrowings	65.6	81.4	32.4
	271.8	1,132.2	710.4

The average interest rate was 6.7% (1987: 7.2%).

Private borrowings and debt to credit institutions have been secured to an aggregate amount of Hfl 106 million (at December 31, 1987: Hfl 103 million) by means of mortgages, etc.

The total amount of long-term credit facilities arranged by Akzo but not yet utilized was approximately Hfl 1,100 million at December 31, 1988 (at December 31, 1987: approximately Hfl 625 million). For details on debentures issued by Akzo N.V. see the notes to the Akzo N.V. balance sheet on page 58.

Short-Term Borrowings

Millions of guilders	1988	1987
Commercial paper	591.1	508.4
Debt to credit institutions	845.2	1,016.3
	1,436.3	1,524.7

Other Current Liabilities

Millions of guilders	1988	1987
Prepayments by customers	102.5	111.9
Debt to suppliers	1,460.3	1,244.6
Debt to non-consolidated companies	40.5	27.0
Taxes and social security contributions	274.1	318.7
Dividends	243.5	207.0
Pensions	67.1	18.6
Other liabilities	893.0	727.0
	3,081.0	2,654.8

Extraordinary Items after Taxes			Employees		
Millions of guilders	1988	1987	Average number of employees	1988	1987
Extraordinary gains	8.0	466.7	Fibers and polymers division	30,400	30,200
Extraordinary losses	(48.2)	(298.1)	Salt and basic chemical division	6,200	5,700
Extraordinary items before taxes	(40.2)	168.6	Chemical division	7,600	6,300
Taxes	28.9	104.7	Coatings division	12,100	10,800
	(11.3)	273.3	Pharma division	12,300	11,800
			Consumer products division		3,400
On balance, extraordinary items showed a loss after taxes of Hfl 11.3 million, which was largely attributable to the creation of provisions for restructuring.			Other companies	1,400	1,300
				70,000	69,500
Salaries, Wages, and Social Charges			Number of employees at December 31		
Millions of guilders	1988	1987		1988	1987
Salaries and wages	3,770.5	3,581.2		71,100	67,400
Pension costs	404.3	362.4			
Other social charges	714.1	682.9			
	4,888.9	4,626.5			

Consolidated Statement of Changes in Financial Position

This statement provides data on sources and applications of funds and on the Company's financing activities. It is based on a comparison of initial and final balance sheet amounts, in which currency translation differences, changes in

investments in affiliated companies, etc. are eliminated.

For some items the elimination can be derived directly from the notes to the balance sheet. For certain other items the elimination is shown below.

Millions of guilders	Other financial fixed assets	Working capital*	Provisions	Long-term debt	Short-term borrowings
Changes in 1988 balance sheet items	(18)	431	(60)	890	(88)
Eliminations:					
Changes in exchange rates	(6)	(103)	(36)	(27)	(78)
Changes in consolidation	30	(84)	(44)	(9)	(4)
Changes in 1988 financial position	6	244	(140)	854 **	(170)

* Inventories and receivables less other current liabilities, exclusive of dividends.

** Balance of drawdowns (Hfl 1,151 million) and repayments (Hfl 297 million).

Supplementary Information on the Basis of Current Value

In the valuation and determination of income on the basis of current value the following additional accounting policies are used:

Property, plant and equipment

- The current value of land is approximated on the basis of appraisals.
- The current value of the other property, plant and equipment is computed using indexes from external sources in the principal countries of establishment, with adjustments for the estimated decrease in value as a result of technological advances. In cases where the current value exceeds the value to the business, the latter value is used.
- Deferred taxes resulting from the revaluation of property, plant and equipment not yet realized are shown under provisions.
- To calculate depreciation on the basis of current value the same percentages are

used as for depreciation on the basis of historical cost.

- The difference between depreciation on the basis of current value and depreciation on the basis of historical cost is treated as additional depreciation.

Inventories

- Inventories are shown at historical cost, unless there is a material difference with the current value at the balance sheet date.
- The difference between current value and historical cost of the inventories consumed is treated as inventory results.

Gearing adjustment

- To the extent that fixed assets and inventories are considered to be financed with debt, additional depreciation and inventory results are not included in net income.

Condensed Consolidated Balance Sheet

Millions of guilders	1988	1987
Assets		
Fixed assets on the basis of historical cost	6,405	5,587
Revaluation of fixed assets	1,292	1,294
Fixed assets on the basis of current value	7,697	6,881
Current assets	7,073	6,227
Total	14,770	13,108

Group equity and liabilities

Stockholders' equity	5,144	4,624
Minority interest	279	261
Group equity	5,423	4,885
Provisions	2,601	2,704
Debt	6,746	5,519
Total	14,770	13,108

Summarized Consolidated Income Data

Millions of guilders	1988	1987
Net sales	16,581	15,535
Operating income on the basis of historical cost	1,424	1,181
Adjustment of operating income to current value		
– Inventory results	(83)	5
– Additional depreciation	(127)	(129)
Operating income on the basis of current value	1,214	1,057
As percentage of net sales	7.3	6.8
Net income on the basis of historical cost	843	942
Adjustment of operating income to current value	(210)	(124)
Gearing adjustment	103	54
Adjustments for non-consolidated companies and minority interest	(9)	(5)
Net income on the basis of current value	727	867
Ditto, before extraordinary items	738	594

Akzo N.V. Balance Sheet

See notes on pages 57 through 59.

after allocation of profit

<i>Millions of guilders, December 31</i>	<i>1988</i>	<i>1987</i>
Assets		
<i>Fixed assets</i>		
Financial fixed assets	7,019.4	6,108.0
<i>Current assets</i>		
Receivables	61.6	66.0
Cash and short-term investments	<u>280.6</u>	<u>340.7</u>
	342.2	406.7
Total	7,361.6	6,514.7
Stockholders' Equity and Liabilities		
<i>Stockholders' equity</i>		
Subscribed stock	804.9	804.3
Additional paid-in capital	1,257.5	1,254.2
Statutory reserves	-	-
Other reserves	<u>2,227.8</u>	<u>1,753.1</u>
	4,290.2	3,811.6
<i>Long-term debt</i>	2,309.2	1,661.9
<i>Current liabilities</i>	762.2	1,041.2
Total	7,361.6	6,514.7

Akzo N.V. Statement of Income

See notes on page 59.

<i>Millions of guilders</i>	<i>1988</i>	<i>1987</i>
Net income from affiliated companies	864.2	970.6
Other net income	(21.5)	(28.6)
<i>Net income</i>	842.7	942.0

Notes to Akzo N.V. Balance Sheet and Statement of Income

General

Foreign currency has been translated, assets and liabilities have been valued, and net income has been determined, in accordance with the principles of valuation and determination of income set forth on pages 45 and 46.

Thus stockholders' equity and net income are equal to stockholders' equity and net

income as shown in the consolidated financial statements on pages 47 and 48. As the financial data of Akzo N.V. are included in the consolidated financial statements of the Akzo Group, the statement of income of Akzo N.V. is condensed in conformity with Book 2 of the Dutch Civil Code, section 402.

Balance Sheet

Financial Fixed Assets

Millions of guilders	Total	Consolidated companies		Nonconsolidated companies		Other financial fixed assets
		Share in capital	Loans*	Share in capital	Loans	
Situation at						
December 31, 1987	6,108.0	3,598.6	2,373.2	135.4	-	0.8
Investments/ disinvestments	(39.9)	(39.8)				(0.1)
Equity in 1988 earnings	864.2	807.3		56.9		
Dividends received	(741.3)	(714.1)		(27.2)		
Loans granted	966.9		966.9			
Repayment of loans	(72.3)		(72.3)			
Changes in exchange rates	103.1	97.7	16.5	(11.1)		
Goodwill	(169.3)	(169.3)				
Situation at						
December 31, 1988	7,019.4	3,580.4	3,284.3	154.0	-	0.7

Receivables			Cash and Short-Term Investments		
Millions of guilders	1988	1987	Millions of guilders	1988	1987
Receivables from consolidated companies	32.7	49.1	Short-term investments	273.0	338.2
Receivables from nonconsolidated companies	0.3	0.2	Cash on hand and in banks	7.6	2.5
Other receivables	28.6	16.7		280.6	340.7
	61.6	66.0			

* Loans to consolidated companies have no fixed repayment schedule.

Stockholders' Equity

<i>Millions of guilders</i>	<i>Subscribed stock</i>	<i>Additional paid-in capital</i>	<i>Statutory reserves</i>	<i>Other reserves</i>	<i>Stockholders' equity</i>
Situation at December 31, 1987	804.3	1,254.2	-	1,753.1	3,811.6
Issuance of common stock due to conversion of debentures and exercise of warrants	0.6	3.3			3.9
Cum. pref. stock purchases	(0.0)	(0.0)			(0.0)
Retained earnings				540.9	540.9
Goodwill				(169.3)	(169.3)
Changes in exchange rates in respect of affiliated companies				103.1	103.1
Situation at December 31, 1988	804.9	1,257.5	-	2,227.8	4,290.2

Subscribed stock

Authorized capital stock of Akzo N.V. is Hfl 1,030,048,000 and consists of 48 shares of priority stock of Hfl 1,000 each, 30,000 shares of cumulative preferred stock of Hfl 1,000 each, and 50 million shares of common stock of Hfl 20 each. Subscribed stock consists of 48 shares of priority stock, 29 shares of cumulative preferred stock, and 40,240,707 shares of common stock.

Warrants

In 1986, Akzo N.V. issued 2,001,513 warrants to bearer. From May 1, 1988 through September 30, 1991 each warrant entitles the holder thereof to obtain, at the price of Hfl 120, one share of Akzo N.V. common stock. Akzo N.V. has the right to shorten the exercise period of the warrants to any date after November 1, 1988, with due observance of a period of prior notice of at least three months. In 1988, a total of 710 warrants were exercised.

Purchases of own stock

In 1988 a total of 22 cumulative preferred shares of Hfl 1,000 were offered to the Company. They were purchased for an amount of Hfl 26,400.

Additional paid-in capital

At least Hfl 827 million of additional paid-in capital (at December 31, 1987: Hfl 824 million) can be considered free from income tax within the meaning of the Dutch 1964 Income Tax Law (Wet op de Inkomstenbelasting 1964).

Statutory reserves

This includes the statutory reserve relating to the earnings retained by affiliated companies after 1983. Goodwill paid by affiliated companies is deducted from the

statutory reserve. The statutory reserve has been calculated by the so-called collective method.

Long-Term Debt

<i>Millions of guilders</i>	<i>1988</i>	<i>1987</i>
Debentures	1,227.8	413.0
Debt to consolidated companies	827.0	1,055.1
Private borrowings	168.4	177.1
Other borrowings	86.0	16.7
	2,309.2	1,661.9

Debentures

<i>Millions of guilders</i>	<i>1988</i>	<i>1987</i>
4 ³ / ₄ % 1969/89 (U.S.\$)	0.1	4.3
10 ³ / ₄ % 1982/88-92	80.0	100.0
5 ⁵ / ₈ % 1983/93 (Sfr)		139.3
14% 1987/90 (AS)	73.5	73.5
9 ³ / ₄ % 1987/90 (Can.S)	95.3	95.3
6 ¹ / ₄ % 1988/95	200.0	
4 ⁵ / ₈ % 1988/98 (Sfr)	133.4	
6% 1988/96	200.0	
5 ³ / ₈ % 1988/93 (DM)	225.8	
11% 1988/91 (Can.S)	104.2	
7 ⁵ / ₈ % 1988/91 (ECU)	114.9	
Employee debentures	0.6	0.6
	1,227.8	413.0

The amount for the 4³/₄% debentures 1969/89 represents the unpaid balance of the original convertible debentures, whose conversion period ended at December 31, 1988.

The liabilities arising from the A\$- and Can.S-denominated debenture issues were swapped to liabilities in guilders on which interest is payable at a floating rate related to AIBOR/LIBOR.

The liability arising from the ECU-denominated debenture issue was swapped to a liability in U.S. dollars on which interest is payable at a floating rate related to LIBOR.

Debt to consolidated companies

Borrowings from these companies have no fixed repayment schedule. Part of these borrowings do not bear interest. To the extent that interest is charged, it averaged 6.1% in 1988 (1987: 6.3%).

Private and other borrowings

Aggregate maturities are as follows:

Millions of guilders	1989	1990/ 1993	after 1993
Private borrowings	8.7	158.7	1.0
Other borrowings	51.2	30.1	4.7

The average rate of interest was 7.1% (1987: 7.1%).

Current Liabilities

Millions of guilders	1988	1987
Debt to credit institutions	287.7	446.3
Commercial paper	10.1	152.4
Debt to consolidated companies	78.4	177.1
Taxes and social security contributions	5.1	5.1
Dividend	243.5	207.0
Other liabilities	137.4	53.3
	762.2	1,041.2

Liabilities Not Shown in the Balance Sheet

Joint and several liability; guarantees

Akzo N.V. has declared in writing that it accepts joint and several liability for contractual debts of Dutch consolidated companies.

These debts, at December 31, 1988 aggregating approximately Hfl 1.7 billion (at December 31, 1987: approximately Hfl 1.6 billion), are included in the consolidated balance sheet of the Akzo Group. Additionally, guarantees were issued in behalf of consolidated companies in the amount of Hfl 1.3 billion (1987: Hfl 0.8 billion) and in behalf of nonconsolidated companies in the amount of Hfl 106 million (1987: Hfl 109 million).

Statement of Income

Net Income from Affiliated Companies

Net income from affiliated companies concerns Akzo N.V.'s share in the earnings of its affiliates.

Remuneration of Members of the Board of Management and of the Supervisory Council of Akzo N.V.

In fiscal 1988, remuneration including pension expense amounted to Hfl 4,787,000 (1987: Hfl 4,594,000) for members and former members of the Board of Management, and to Hfl 674,000 (1987: Hfl 638,000) for members and former members of the Supervisory Council. These amounts were charged to Akzo Group income.

Arnhem, March 13, 1989

The Board of Management

A.A. Loudon
J.W. Berghuis
J. Veldman
M.D. Westermann

The Supervisory Council

G. Kraijenhoff
A. Herrhausen
E.G.G. Werner
A. Batenburg
A.G. van den Bos
F.H. Fentener van Vlissingen
H.A. van Stiphout
C. van Veen
O. Wolff von Amerongen
H.G. Zempelin

Auditors' Report

We have examined the foregoing 1988 financial statements of Akzo N.V. In our opinion, these financial statements present fairly the financial position of Akzo N.V. at December 31, 1988, and the results of its operations for the year then ended.

Arnhem, March 13, 1989

KPMG Klynveld Kraayenhof & Co.

Provisions of the Articles of Association with regard to Profit Allocation

Article 39

1
The Board of Management shall be authorized to determine, with the approval of the Supervisory Council, how great a share of the profit as shown by the approved statement of income shall be added to reserves; the general meeting of shareholders may dispose of such reserves only on the proposal of the Board of Management approved by the Supervisory Council. The remainder of the profits shall be put at the disposal of the general meeting of shareholders, with due observance of the provisions in paragraph 2.

2
The remainder of the profits shall, to the extent possible, be allocated as follows:
a
to the holders of priority shares: six per cent per share or the statutory interest as stated in article 8, paragraph 1, whichever is lower, plus any accrued and unpaid dividends;

b
to the holders of cumulative preferred shares:
six per cent per share, plus any accrued and unpaid dividends;

c
to the holders of ordinary shares:
a dividend of such an amount per share as the remaining profit, less the aforesaid payments and less such amounts as the general meeting of shareholders may decide to carry to reserves, shall permit.

3
The holders of ordinary shares are, to the exclusion of everyone else, entitled to allocations made from reserves accrued by virtue of the provision of the second paragraph sub c.

4
The right to receive dividends and interim dividends shall lapse six years after such dividends and interim dividends have been made payable.

Proposal for Profit Allocation

Amounts in guilders

1988

Net income	842,700,000
------------	-------------

With due observance of art. 39, para 2, of the articles of association, it is proposed that this amount be allocated as follows:

To be distributed:	
dividend on priority stock	2,880
dividend on cumulative preferred stock	3,060
dividend on common stock	<u>301,804,814</u>
	<u>301,810,754</u>
To be added to other reserves	540,889,246

Following the acceptance of this proposal, the holders of common stock will receive a dividend of Hfl 7.50 per common share of Hfl 20, of which Hfl 1.50 was paid earlier as an interim dividend.
The final dividend of Hfl 6.00 will be made available on dividend coupon No. 32 from May 16, 1989. Until September 1, 1989,

stockholders may choose to receive on this coupon the final dividend in cash or entirely in common stock chargeable to additional paid-in capital or, at stockholder's option, to other reserves.
The stock dividend rate will be determined on April 27, 1989.

Special Rights to Holders of Priority Stock

The priority stock is held by "Akzo-stichting" (Akzo Foundation), which is controlled by the members of the Supervisory Council and the Board of Management.

The meeting of holders of priority stock has the right to draw up binding lists of nominees for appointment to the

Supervisory Council and the Board of Management. Amendments of the Articles of Association are subject to the approval of this meeting.

Balance Sheets, with Notes, of Dutch Partnerships ("Vennootschappen onder Firma")

Akzo Group companies are general partners in the following partnerships:

Aramide Maatschappij v.o.f., Emmen	50%
Glucona v.o.f., Ter Apelkanaal	50%
Methanol Chemie Nederland v.o.f., Delfzijl (MCN)	50%
Methanor v.o.f., Delfzijl	30%
ROVIN Rotterdamse Vinylunie v.o.f., Amsterdam	50%

The percentages indicate Akzo Group interest in the above companies.

In conformity with Book 2 of the Dutch Civil Code, section 379, paragraph 4, the Minister of Economic Affairs has granted an exemption for Aramide Maatschappij v.o.f., Emmen, for the years 1987, 1988, and 1989, as contemplated in Book 2 of the Dutch Civil Code, section 392, paragraph 5.

The data of the other Dutch partnerships are of negligible significance for a proper understanding of the financial statements.

Ten-Year Financial Summary

In the computation of ratios, the amounts used for invested capital and stockholders' equity represent averages of the amounts at January 1 and December 31 of the year.

Consolidated Balance Sheet

Millions of guilders	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Property, plant and equipment	5,558	4,795	4,330	3,843	4,208	3,840	3,911	3,673	3,441	3,273
Financial fixed assets	847	792	660	622	610	611	499	532	525	493
Fixed assets	6,405	5,587	4,990	4,465	4,818	4,451	4,410	4,205	3,966	3,766
Inventories	2,997	2,568	2,586	2,691	2,653	2,457	2,542	2,506	2,454	2,233
Receivables	3,125	2,733	2,768	3,114	2,893	2,701	2,339	2,587	2,308	2,225
Cash and short-term investments	951	926	1,084	1,485	1,067	1,206	778	898	883	805
Current assets	7,073	6,227	6,438	7,290	6,613	6,364	5,659	5,991	5,645	5,263
Total assets	13,478	11,814	11,428	11,755	11,431	10,815	10,069	10,196	9,611	9,029
Subscribed capital	805	804	803	796	789	664	593	593	593	593
Additional paid-in capital	1,257	1,254	1,247	1,120	1,087	740	658	658	658	658
Statutory reserves	-	-	438*	372*	300*	-	-	-	-	-
Other reserves	2,228	1,754	1,823*	1,854*	1,838*	1,563	1,237	1,198	1,015	1,074
Stockholders' equity	4,290	3,812	4,311	4,142	4,014	2,967	2,488	2,449	2,266	2,325
Minority interest	235	217	354	353	170	120	122	407	393	408
Group equity	4,525	4,029	4,665	4,495	4,184	3,087	2,610	2,856	2,659	2,733
Provisions	2,207	2,266	2,005	2,003	1,729	1,535	1,427	1,335	1,329	1,147
Subordinated loans	115	145	167	184	203	221	175	75	25	-
Other long-term borrowings	2,114	1,194	1,438	1,678	2,169	3,132	3,227	3,114	3,072	2,842
Long-term debt	2,229	1,339	1,605	1,862	2,372	3,353	3,402	3,189	3,097	2,842
Short-term borrowings	1,436	1,525	405	439	430	349	571	613	574	453
Other current liabilities	3,081	2,655	2,748	2,956	2,716	2,491	2,059	2,203	1,952	1,854
Current liabilities	4,517	4,180	3,153	3,395	3,146	2,840	2,630	2,816	2,526	2,307
Total Group equity and liabilities	13,478	11,814	11,428	11,755	11,431	10,815	10,069	10,196	9,611	9,029
<i>Invested capital**</i>										
Of consolidated companies	8,743	7,603	7,061	6,832	7,203	6,666	6,881	6,744	6,418	6,074
In nonconsolidated companies	703	630	535	482	445	452	351	351	357	297
Total	9,446	8,233	7,596	7,314	7,648	7,118	7,232	7,095	6,775	6,371
<i>Property, plant and equipment</i>										
Capital expenditures	1,270	1,095	1,106	1,008	784	625	730	693	645	461
Depreciation	751	668	577	608	576	584	533	527	504	506
<i>Ratios</i>										
Net sales : invested capital	2.03	2.12	2.25	2.57	2.38	2.23	2.08	2.20	1.99	2.03
Group equity : debt	0.51	0.52	0.69	0.62	0.58	0.40	0.35	0.39	0.38	0.43
Group equity : fixed assets	0.71	0.72	0.93	1.01	0.87	0.69	0.59	0.68	0.67	0.73
Inventories and receivables : other current liabilities	1.99	2.00	1.95	1.96	2.04	2.07	2.37	2.31	2.44	2.40

* Restated for comparison.

** Total assets less cash and short-term investments, and less other current liabilities.

Consolidated Statement of Income

<i>Millions of guilders</i>	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Net sales	16,581	15,535	15,615	18,010	16,520	15,085	14,154	14,476	12,453	12,015
Operating income	1,424	1,181	1,465	1,465	1,340	843	493	564	416	689
Financing charges	(255)	(147)	(106)	(185)	(285)	(341)	(297)	(329)	(261)	(259)
Taxes on operating income less financing charges	(409)	(367)	(478)	(465)	(369)	(73)	(28)	(79)	(48)	(136)
Equity in earnings of nonconsolidated companies	123	53	17	98	123	110	59	83	72	32
Group income from normal operations, after taxes	883	720	898	913	809	539	227	239	179	326
Extraordinary items after taxes	(11)	273	23	3	(35)	(102)	(49)	7	(246)	(60)
Group income	872	993	921	916	774	437	178	246	(67)	266
Minority interest	(29)	(51)	(79)	(73)	(22)	(9)	(13)	(7)	(3)	(36)
Net income	843	942	842	843	752	428	165	239	(70)	230

Common stock, in thousands of shares of Hfl 20	40,241	40,208	40,138	39,755	39,427	33,151	29,594	29,594	29,594	29,594
Dividend	302	265	265	262	236	133	47*	59	-	71

Per common share of Hfl 20, in guilders

Net income	20.94	23.43	20.96	21.21	19.06	12.91	5.56	8.07	(2.35)	7.74
Dividend	7.50	6.60	6.60	6.60	6.00	4.00	1.60	2.00	-	2.40
Stockholders' equity	106.61	94.80	107.40	104.16	101.80	89.48	84.06	82.72	76.56	78.55

Adjusted for common stock issues

Net income	20.94	23.43	20.96	21.21	19.06	12.85	5.29	7.67	(2.23)	7.36
Dividend	7.50	6.60	6.60	6.60	6.00	3.98	1.52	1.90	-	2.28
Stockholders' equity	106.61	94.80	107.40	104.16	101.80	89.03	79.94	78.67	72.81	74.70

Number of employees at December 31	71,100	67,400	68,400	65,000	66,100	66,300	73,700	77,800	83,100	83,000
Salaries, wages, and social charges	4,889	4,627	4,439	4,641	4,292	4,303	4,229	4,182	3,789	3,572
Ditto, as % of net sales	29.5	29.8	28.4	25.8	26.0	28.5	29.9	28.9	30.4	29.7

Ratios

Operating income, as percentage of net sales	8.6	7.6	9.4	8.1	8.1	5.6	3.5	3.9	3.3	5.7
Operating income, as percentage of invested capital	17.4	16.1	21.1	20.9	19.3	12.4	7.2	8.6	6.7	11.6
Net income, as percentage of stockholders' equity	20.8	23.2	19.9	20.7	21.5	15.7	6.7	10.1	(3.0)	10.1

Figures on a Current-Value Basis

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
<i>Per common share of Hfl 20, in guilders</i>										
Net income	18.07	21.56	21.08	18.49	16.36	9.26	2.20	2.74	(5.98)	3.01
Stockholders' equity	127.83	115.00	126.00	123.41	123.50	113.40	110.74	110.51	100.84	96.99

* Of which Hfl 30 million in cash.

Product Group Statistics*

<i>Millions of guilders</i>	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
<i>Net sales</i>										
<i>Chemical products:</i>										
Salt and basic chemicals	2,618	2,034	2,029	2,482	2,302	2,001	1,872	1,924	1,729	1,797
Specialty chemicals	3,402	2,617	2,303	2,673	2,498	2,096	1,945	2,087	1,820	1,684
	6,020	4,651	4,332	5,155	4,800	4,097	3,817	4,011	3,549	3,481
<i>Fibers and polymers:</i>										
<i>Fibers</i>										
- textile uses	1,975	1,821	1,995	2,206	2,069	1,860	2,001	2,172	1,866	2,014
- industrial uses	1,432	1,340	1,448	1,647	1,507	1,303	1,255	1,250	1,119	1,031
Polymers	1,271	1,130	1,070	982	1,011	819	750	717	612	622
	4,678	4,291	4,513	4,835	4,587	3,982	4,006	4,139	3,597	3,667
Coatings	2,794	2,415	2,314	2,171	1,973	1,796	1,572	1,513	1,432	1,221
Healthcare products	2,412	2,218	2,239	2,138	1,849	1,647	1,563	1,484	1,320	1,274
Miscellaneous products	888	844	1,009	921	815	636	581	596	532	562
	16,792	14,419	14,407	15,220	14,024	12,158	11,539	11,743	10,430	10,205
Intra-Group deliveries	(211)	(250)	(245)	(260)	(265)	(203)	(188)	(182)	(169)	(133)
Divested operations**		1,366	1,453	3,050	2,761	3,130	2,803	2,915	2,192	1,943
Net sales	16,581	15,535	15,615	18,010	16,520	15,085	14,154	14,476	12,453	12,015
<i>Operating income</i>										
Chemical products	700	470	421	474	403	193	89	125	183	253
Fibers and polymers	195	129	350	404	372	146	87	51	(98)	130
Coatings	210	164	132	130	144	143	97	110	110	98
Healthcare products	335	330	350	355	306	260	233	190	145	134
Miscellaneous products	15	42	130	105	61	1	(3)	2	23	21
	1,455	1,135	1,383	1,468	1,286	743	503	478	363	636
Not allocated	(31)	(41)	(9)	(63)	(52)	(28)	(5)	(32)	(8)	(33)
Divested operations**		87	91	60	106	128	(5)	118	61	86
Operating income	1,424	1,181	1,465	1,465	1,340	843	493	564	416	689
<i>Invested capital</i>										
Chemical products	3,455	2,765	2,386	2,393	2,362	2,025	1,895	1,851	1,749	
Fibers and polymers	2,464	2,329	2,149	2,082	1,978	1,969	2,151	2,042	1,847	
Coatings	1,291	1,089	1,070	894	738	653	598	569	585	
Healthcare products	1,390	1,152	1,069	987	809	772	701	714	733	
Miscellaneous products	310	288	220	255	235	242	259	298	316	
	8,910	7,623	6,894	6,611	6,122	5,661	5,604	5,474	5,230	
Not allocated	(167)	(20)	(143)	(138)	(123)	(67)	(92)	(65)	(6)	
Divested operations**			310	359	1,204	1,072	1,369	1,335	1,194	
Invested capital	8,743	7,603	7,061	6,832	7,203	6,666	6,881	6,744	6,418	6,074

* Figures for 1979 through 1987 restated for comparison.

** Relates to consumer products division, American Enka, and Brand-Rex.

Regional Statistics

Millions of guilders

The Netherlands

	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979
Net sales by:										
destination	1,706	1,948	1,902	1,988	1,836	1,675	1,561	1,460	1,454	1,419
origin	6,019	5,763	5,721	6,234	5,772	5,106	4,528	4,699	4,255	4,212
Operating income	601	496	546	568	453	229	75	133	117	
Expenditures for property, plant and equipment	465	451	442	424	286	283	338	303	246	170
Invested capital	2,902	2,783	2,657	2,560	2,414	2,293	2,288	2,143	2,095	2,069
Number of employees	22,700	22,500	23,900	23,100	22,400	22,000	22,600	23,000	23,600	23,700

Federal Republic of Germany

Net sales by:										
destination	2,692	2,613	2,602	2,605	2,493	2,340	2,168	2,266	2,198	2,243
origin	4,179	3,959	4,251	4,419	4,130	3,580	3,395	3,385	3,106	3,087
Operating income	261	240	433	384	370	178	128	105	66	
Expenditures for property, plant and equipment	282	232	273	191	157	110	136	138	130	100
Invested capital	1,785	1,714	1,651	1,679	1,562	1,694	1,688	1,660	1,578	1,613
Number of employees	19,700	19,600	19,400	19,000	18,400	18,700	19,400	20,200	21,000	21,200

Rest of Europe

Net sales by:										
destination	6,125	6,404	6,617	6,739	5,902	5,131	5,137	5,276	4,716	4,523
origin	2,566	3,094	3,056	3,063	2,470	2,226	2,392	2,458	2,216	1,998
Operating income	263	266	303	299	215	174	164	109	83	
Expenditures for property, plant and equipment	209	163	157	124	100	77	68	95	99	60
Invested capital	1,504	1,291	1,361	1,246	1,052	892	909	933	941	912
Number of employees	11,700	11,600	13,200	12,500	11,100	11,000	12,700	14,000	16,000	15,900

North America

Net sales by:										
destination	3,128	2,333	2,224	3,923	3,781	3,744	3,241	3,375	2,362	2,413
origin	2,664	2,014	1,918	3,510	3,353	3,462	3,048	3,210	2,253	2,224
Operating income (loss)	150	86	84	95	166	123	(24)	99	45	113
Expenditures for property, plant and equipment	251	209	207	231	217	136	148	139	150	117
Invested capital	1,983	1,367	1,102	1,047	1,853	1,510	1,695	1,721	1,542	1,291
Number of employees	8,900	7,500	6,200	5,400	8,800	9,100	13,400	14,900	16,000	16,200

Other regions

Net sales by:										
destination	2,930	2,237	2,270	2,755	2,508	2,195	2,047	2,099	1,723	1,417
origin	1,153	705	669	784	795	711	791	724	623	494
Operating income	149	93	99	119	136	139	150	118	105	79
Expenditures for property, plant and equipment	63	40	27	38	24	19	40	18	20	14
Invested capital	569	448	290	300	322	277	301	287	262	189
Number of employees	8,100	6,200	5,700	5,000	5,400	5,500	5,600	5,700	6,500	6,000

(other than holding companies and national organizations)

December 31, 1988

Percentages of participation are only stated for companies in which Akzo N.V. or any of its majority-owned subsidiaries separately or jointly holds less than 95% of the subscribed stock.

Fibers and polymers division

(Wuppertal, Federal Republic of Germany (D))

Enka B.V., Arnhem	Netherlands	
Akzo Plastics B.V., Arnhem	Netherlands	
Colbond B.V., Arnhem	Netherlands	
Aramide Maatschappij v.o.f., Emmen	Netherlands	(50)
Akzo Industrial Systems B.V., Arnhem	Netherlands	
Enka AG, Wuppertal	D	
Barmag AG, Remscheid-Lennep	D	
with establishments in Switzerland*,		
U.S.A., Brazil*, and Hong Kong		
Tiefenbach GmbH, Essen	D	
Kuaggarn Textil GmbH, Wuppertal	D	
La Seda de Barcelona S.A., Barcelona	Spain	(58)
Wilson-Fiberfil International Inc.,		
Neshanic Station, New Jersey	U.S.A.	
with establishments in Canada, France,		
Belgium, and Sweden		
Enka America Inc., Asheville, North Carolina	U.S.A.	
Fortafil Fibers Inc., Rockwood, Tennessee	U.S.A.	
Fibras Químicas S.A., Monterrey	Mexico	(40)
Polyenka S.A., São Paulo	Brazil	(51)
COBAFI Companhia Bahiana de Fibras S.A.,		
Camaçari	Brazil	(36)
Enka de Colombia S.A., Medellín	Colombia	(49)
Enkador S.A., Quito	Ecuador	(49)
Century Enka Ltd, Calcutta	India	(40)
Nippon Aramid Co. Ltd, Tokyo	Japan	(50)

Salt and basic chemical division

(Hengelo (O), the Netherlands)

Akzo Salt and Basic Chemicals Nederland B.V.,		
Hengelo	Netherlands	
Methanol Chemie Nederland v.o.f., Delfzijl	Netherlands	(50)
Methanor v.o.f., Delfzijl	Netherlands	(30)
Delamine B.V., Delfzijl	Netherlands	(50)
Delesto B.V., Delfzijl	Netherlands	(50)
ROVIN Rotterdamse Vinylunie v.o.f., Amsterdam	Netherlands	(50)
Norddeutsche Salinen GmbH, Stade	D	
Elektro-Chemie Ibbenb. GmbH, Ibbenbüren	D	(50)
Akzo België N.V., Division Salt and Basic		
Chemicals, Brussels	Belgium	
Dansk Salt I/S, Mariager	Denmark	(50)
Akzo Salt and Basic Chemicals A.B., Göteborg	Sweden	
Akzo Salt and Basic Chemicals S.p.A., Milan	Italy	
Denak Co. Ltd, Tokyo	Japan	(50)
International Salt Co., Clarks Summit,		
Pennsylvania	U.S.A.	
with establishments in Canada and		
the Netherlands Antilles		

Chemical division

(Amersfoort, the Netherlands)

Akzo Chemicals International B.V., Amersfoort	Netherlands	
Cyanamid-Ketjen Katalysator B.V.,		
Amsterdam	Netherlands	(50)
Glucona v.o.f., Ter Apelkanaal	Netherlands	(50)
Silenka B.V., Hoogezand	Netherlands	(33)
Akzo Chemicals GmbH, Düren	D	
Carbosulf Chemische Werke GmbH, Cologne	D	(67)
Rhodanid Chemie GmbH, Cologne	D	(67)
Kali-Chemie-Stauffer GmbH, Hanover	D	(50)
Akzo Chemicals S.A., Mons	Belgium	
Texas Alkyls Belgium S.A., Seneffe	Belgium	(50)
Akzo Chemicals A/S, Hørsholm	Denmark	
Akzo Chemicals S.à.r.l., Venette	France	
Produits Chimiques Auxiliaires et de Synthèse		
S.A., Longjumeau	France	
Akzo Chemicals A.S., Oslo	Norway	
Akzo Chemicals S.p.A., Arese	Italy	
Bertelli S.p.A., Porcari	Italy	
Akzo Chemicals S.A., Barcelona	Spain	
Akzo Chemicals U.K. Ltd, Gillingham	U.K.	
Vulnax International Ltd, Gillingham	U.K.	
with establishment in France		
Akzo Chemicals Inc., Chicago, Illinois	U.S.A.	
Texas Alkyls Inc., Deer Park, Texas	U.S.A.	(50)
Akzo Chemicals Ltd, Toronto	Canada	
Cornwall Chemicals Ltd, Cornwall (Ont.)	Canada	(50)
Peroxidos Argentinos S.A.I.C.F. y A.,		
Buenos Aires	Argentina	(82)
Akzo Ltda, Divisão Química, São Paulo	Brazil	
Alkyls do Brasil Ltda, São Paulo	Brazil	(50)
FCC-Fábrica Carioca de Catalisadores S.A.,		
Rio de Janeiro	Brazil	(40)
Akzo Chemicals Pte. Ltd, Singapore	Singapore	
Nippon Ketjen Company Ltd, Tokyo	Japan	(50)
Kayaku Akzo Corporation, Tokyo	Japan	(50)
Lion Akzo Company Ltd, Tokyo	Japan	(50)
Akzo Japan Ltd, Tokyo	Japan	
Tosoh Akzo Corporation, Tokyo	Japan	(50)
Akzo Kashima Ltd, Tokyo	Japan	(70)
Akzo & Pacific Oleo Chemicals Sdn. Bhd.,		
Selangor	Malaysia	(50)
Akzo Chemicals Ltd, Camellia	Australia	
Pacific Chemical Industries Pty Ltd, Camellia	Australia	(50)

* Participation less than 95%.

Coatings division

(Hoofddorp, the Netherlands)

Sikkens B.V., Sassenheim	Netherlands	
Koninklijke Brink/Molyn B.V., Groot-Ammers	Netherlands	
Koninklijke Talens B.V., Apeldoorn	Netherlands	
Synthese B.V., Bergen op Zoom	Netherlands	
Akzo Coatings GmbH, Stuttgart	D	
Akzo Coatings Ges.mbH, Salzburg	Austria	
Akzo Coatings N.V./S.A., Vilvoorde	Belgium	
Akzo Coatings S.A., Paris	France	
with establishments in Morocco*, Senegal*, Ivory Coast*, and Cameroon*		
Dacral S.A., Paris	France	(50)
Akzo Coatings PLC, Didcot	U.K.	
Akzo Coatings S.p.A., Milan	Italy	
Akzo Coatings S.A., Barcelona	Spain	
Industrias Químicas Procolor S.A., San Adrián de Besós	Spain	(50)
Akzo Coatings Inc., Troy, Michigan	U.S.A.	
Akzo Coatings Ltd, Toronto	Canada	
Morilla Inc., Holyoke, Massachusetts	U.S.A.	(30)
Akzo Coatings S.A, Buenos Aires	Argentina	
Akzo Ltda, Divisão Tintas, São Paulo	Brazil	
Tintas Ypiranga Ltda, Rio de Janeiro	Brazil	
General Paint Company de Mexico S.A. de C.V., Tlalnepantla	Mexico	
PT Akzo Coatings Indonesia, Jakarta	Indonesia	(37)
Synthese (Malaysia) Sdn. Bhd., Kuala Lumpur	Malaysia	(43)
Akzo Coatings Thailand Ltd, Bangkok	Thailand	

Pharma division

(Oss, the Netherlands)

Organon International B.V., Oss	Netherlands
Chefaro International B.V., Rotterdam	Netherlands
Diosynth B.V., Oss	Netherlands
Intervet International B.V., Boxmeer	Netherlands
Verenigde Pharmaceutische Fabrieken (VPF) B.V., Oss	Netherlands
Organon Teknika N.V., Turnhout	Belgium

Sales offices or production plants of one or more of the
above companies are established in:

- the Netherlands, Federal Republic of Germany, Belgium,
France, Italy, United Kingdom, Republic of Ireland,
Denmark, Norway, Sweden, Finland, Switzerland, Spain,
Portugal, Greece, Turkey
- United States, Canada
- Mexico, Argentina, Brazil, Chile, Colombia, Ecuador, Venezuela
- Cyprus, Bangladesh*, India*, Malaysia, Pakistan*, Thailand,
Republic of Korea*, Indonesia*, Hong Kong, Japan*, Taiwan*
- Australia
- Morocco, Nigeria*

Other companies

Akzo Engineering B.V., Arnhem	Netherlands
Akzo Systems B.V., Velp	Netherlands
Akzo Electronic Materials Co., New York	U.S.A. (65)

* Participation less than 95%.

Dividends are paid through the following banks:

The Netherlands

Algemene Bank Nederland
Amsterdam-Rotterdam Bank
Bank Mees & Hope
Nederlandsche Middenstandsbank
Pierson, Heldring & Pierson
at their offices in Amsterdam, Rotterdam,
The Hague, and Arnhem, if established
there, as well as at F. van Lanschot
Bankiers, 's-Hertogenbosch, and at
Rabobank Nederland, Utrecht

Federal Republic of Germany

Deutsche Bank
Deutsche Bank Berlin
Bank für Handel und Industrie
Berliner Handels- und Frankfurter Bank
Dresdner Bank
Sal. Oppenheim jr. & Cie.
at their offices in Düsseldorf,
Frankfurt/Main, Hamburg, Cologne, Berlin
(West), and Wuppertal, if established there

Belgium

Generale Bank
Paribas Bank België
Kredietbank
at their offices in Brussels and Antwerp

Luxembourg

Banque Générale du Luxembourg,
Luxembourg

United Kingdom

Barclays Bank
Midland Bank
at their offices in London

France

Lazard Frères & Cie
Banque Nationale de Paris
at their offices in Paris

Austria

Creditanstalt-Bankverein, Vienna

Switzerland

Schweizerische Kreditanstalt, Zurich
Schweizerische Bankgesellschaft, Zurich
Schweizerischer Bankverein, Basel
and the Swiss branch offices of these banks
Pictet & Cie, Geneva

United States

Morgan Guaranty Trust Company, New York

Akzo N.V. common stock is listed on the following stock exchanges:

The Netherlands: Amsterdam
Federal Republic
of Germany: Frankfurt/Main, Düsseldorf,
and Berlin (West)
Switzerland: Zurich, Basel, and Geneva
France: Paris
Belgium: Brussels and Antwerp
United Kingdom: London
Austria: Vienna

