Annual Report 1979

Contents

The annual meeting of stockholders will be held at the RAI Congress Center, Europaplein, Amsterdam, on Tuesday, May 13, 1980, at 10 a.m.

Agenda

1 Opening

2 Report of the board of management for the financial year 1979

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

4 Proposal to amend the articles of association

5 Appointment of members of the supervisory council

6 Annual decision concerning issues as required by the London Stock Exchange*

7 Any other business

* annually recurring agenda item in re compliance with the requirements of the London Stock Exchange concerning the listing of Akzo shares on that stock exchange

Translation

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Supervisory council and board of management

Supervisory council

J.R.M. van den Brink, chairman
G. Kraijenhoff, deputy chairman
Y. Scholten, deputy chairman
S.C. Bakkenist
P.M.H. van Boven
A. Herrhausen
H.L. Merkle
H.J. Schlange-Schöningen
Mrs. K. Schuchardt-van Zwanenberg
J. de Vries
O. Wolff von Amerongen

Board of management

A.G. van den Bos, president
A.A. Loudon, deputy president
J.A. Wolhoff, deputy president
H. van Doorneweerd
A. van Driel
M.W. Geerlings
H.J. Kruisinga
J. Veldman
H.J.J. van der Werf
M.D. Westermann
H.G. Zampelin

Adviser: W.K.N. Schmelzer

Secretary

J.P. Huges

Akzo 1

Akzo is an international group of companies with 160 operations in 50 countries. Employing 83,000 people, and having an invested capital of approximately Hfl 6.5 billion, the Group achieved sales of Hfl 12.0 billion in 1979.

The Group's product range includes man-made fibers, salt, commodity and specialty chemicals, coatings, pharmaceuticals, consumer products, and miscellaneous industrial products.

Business activities are organized in seven entities. Six divisions – Enka (mainly man-made fibers), Akzo Zout Chemie, Akzo Chemie, Akzo Coatings, Akzo Pharma, and Akzo Consumenten Produkten – operate on a worldwide scale, while our interests in North America are incorporated in Akzona. In some countries a national organization exists which renders services to local Akzo companies.

Akzo recognizes the importance of good communications regarding its policies and activities with those who are directly or indirectly involved with the Group. It accepts the codes of conduct established by the Organisation for Economic Co-operation and Development (OECD) and the International Labour Organisation (ILO).

Report of the supervisory council

Changes in supervisory council and board of management

At the annual meeting of stockholders held May 15, 1979, W.F.G.L. Starrenburg resigned from the supervisory council, having reached the council's retirement age. Mr. Starrenburg, who had been a member of the council since 1968, rendered major contributions to the work of the council, especially through his invaluable advice and counsel and his dedicated service to the Company.

J. de Vries and O. Wolff von Amerongen, whose terms of office had expired, were re-appointed.

At the meeting, stockholders adopted the proposal to fix the council's membership at eleven.

Having reached the mandatory retirement age, H. Kramers resigned from the board of management on May 31, 1979.

Mr. Kramers, who bore special responsibility for research, technology, and safety and environmental affairs, joined the board of Koninklijke Zout-Organon in 1968. Previously, his scientific work in the field of physical technology had gained general recognition. We are greatly indebted to Mr. Kramers for the stimulating and humane way in which he directed this important sector of the Group.

Mr. Kramers was succeeded by M.W. Geerlings, who was appointed effective June 1, 1979.

At the annual meeting of stockholders convened for May 13, 1980, J.R.M. van den Brink, P.M.H. van Boven and Y. Scholten will resign from the supervisory council because their terms of office have ended. We recommend that they be re-appointed.

Supervision

In the year under review the supervisory council regularly received oral and written reports on the business of the Company, thus gaining a good insight into the Group's operations.

With the board of management we are gratified that the recovery of the Group's performance continued in 1979. We would like to express our appreciation to the board of management and to the employees for their dedicated efforts.

It nonetheless remains imperative that the Group's position be consolidated further and we agree with the board that all measures and endeavors to achieve this objective should continue to receive top priority. Looking to the future, we believe that the programs to further improve the product mix will not only strengthen the financial base of the Group but will also help our employees to make the most of the career opportunities available to them.

For approval at the annual meeting of May 13, 1980, we submit to you herewith the financial statements prepared by the board of management for the financial year 1979. The financial statements are made up of the balance sheet and statement of income, with notes, inclusive of the consolidated statements of the Group. These financial statements have been examined by Klynveld Kraayenhof & Co., *Registeraccountants*. Their report appears on page 57.

We approve these financial statements as well as the proposal made therein with regard to the allocation of income.

Acceptance of this proposal means that the 1979 dividend will be fixed at Hfl 2.40 per common share of Hfl 20 par value, of which Hfl 1 was paid earlier as an interim dividend.

We propose 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 27, 1980

For the supervisory council,

J.R.M. van den Brink,
chairman

Financial highlights

on an historical-cost basis	1979	1978
in Hfl million		
sales	12,015	10,666
value added	4,403	3,905
operating income	689	421
net income before extraordinary items	289	49
net income after extraordinary items	230	24
funds from operations	976	659
property, plant and equipment		
capital expenditures	461	434
depreciation	506	486
stockholders' equity	2,325	2,231
per common share of Hfl 20 par value, in Hfl		
net income before extraordinary items	9.75	1.66
net income after extraordinary items	7.74	0.82
dividend	2.40	–
stockholders' equity	78.55	75.35
on a current-value basis (see pages 52 and 53)		
in Hfl million		
operating income	363	269
net income (loss) before extraordinary items	141	(28)*
stockholders' equity	2,828	2,803
per common share of Hfl 20 par value, in Hfl		
net income (loss) before extraordinary items	4.75	(0.95)*
stockholders' equity	95.54	94.69
number of employees	83,000	83,200

* restated for comparison

Report of the board of management

General review

4 **Satisfactory performance**

The year 1979 brought a further improvement in the Group's performance, which far exceeded our initial expectations. Consolidated sales increased 13% to Hfl 12 billion, while net income was up from Hfl 24 million in 1978 to Hfl 230 million in the year under review.

The gain in sales was attributable for more than 5% to higher shipments, with higher selling prices principally accounting for the remainder.

The sharp rise in prices of petrochemical feedstocks and energy caused by the doubling of crude oil prices had an important impact on sales and earnings in 1979.

First, these higher costs afforded an opportunity to adjust selling prices where market conditions permitted us to do so.

Second, the impossibility of predicting the extent and timing of anticipated oil prices rises boosted demand for products based on petrochemicals, resulting in stockpiling in some branches of industry. This had a favorable effect on the Group's sales volume.

The Group's higher earnings are primarily due to volume growth, which led to higher capacity utilization rates. At year-end the increased raw material and energy prices had not yet been fully passed on for all products.

Our results showed a substantial improvement, especially in the Netherlands where no tax deductions needed to be made.

In 1979, extraordinary losses (minus extraordinary gains) aggregated Hfl 60 million. Extraordinary losses mainly concerned additions to provisions for the rationalization of activities and additional write-downs.

Higher raw material prices resulted in positive inventory valuation differences, which were computed at approximately Hfl 190 million (1978: Hfl 44 million). Not all of this amount can be regarded as additional operating income, however, because for a number of products it was not possible to absorb these price rises in time and fully in selling prices.

A clearer view of the Group's performance is afforded by calculation of income on the basis of current value. Before extraordinary items, net income on a current-value basis was Hfl 141 million against a net loss of Hfl 28 million in 1978, which clearly illustrates the significant gain in earnings.

We are pleased that this satisfactory performance enables us to resume payment of a dividend. We propose that the 1979 dividend be fixed at Hfl 2.40 per common share of Hfl 20 par value, of which Hfl 1 was paid as an interim dividend in November, 1979.

Acceptance of this proposal means that of the net income of Hfl 81.7 million available for allocation, an amount of Hfl 71.4 million will be allocated for distribution, while an amount of Hfl 10.3 million will be retained. Together with the reservation deemed necessary to counteract the effect of increases in the value of assets, this will add Hfl 158 million to stockholders' equity.

The improvement in the Group's performance should also please our employees, who may now see the positive results of joint efforts to steer the Group out of troubled waters. We wish to express our deep appreciation for their accomplishments.

We are gratified that talks with the Dutch government have resulted in satisfactory conditions for the initiation of the important electrolysis project.

This project, whose preparation took quite some time, concerns the expansion of our electrolysis capacity in Rotterdam by 250,000 metric tons of chlorine per annum (approximately Hfl 270 million). Consultations are still taking place about the granting of loans by the Nationale Investeringsbank and other banks. A portion of these loans will be of the subordinated type. Furthermore, it is the intention that energy prices will be charged for the electrolysis process which do not materially differ from those in neighboring countries.

This rationalization and expansion of production capacity will greatly strengthen the competitive position of Akzo Zout Chemie and drastically reduce transports of chlorine in the Netherlands.

Also awaiting resolution are negotiations with the Dutch government about the financing of the plan to restructure and modernize the Enka plant at Emmen, at a cost of approximately Hfl 150 million. We trust that the outcome will be positive. Realization of this plan will reinforce the economic position of our Emmen plant and preserve it as a major employer for this underprivileged region.

Early in 1980, the Western European man-made fiber producers who on June 20, 1978, agreed to curtail production capacity of synthetic textile and carpet fibers, amended their agreement.

The purport of this amendment, which has been submitted for approval to the European Commission, is that the temporary arrangement concerning the market quotas of the signatories is replaced by a declaration on the part of the non-Italian producers that under certain circumstances they are willing temporarily to take over from the Italian producers a share of their output. Quantities and conditions are to be established in bilateral negotiations.

These arrangements will provide a basis for the decrease of overall production capacity, which is scheduled to be completed by the end of 1981. It should

be noted that the majority of producers participating in the agreement already realized individual capacity reductions. Enka started early (in 1975) with the implementation of capacity-reducing measures and has meanwhile largely achieved its share of the total capacity curtailment agreed upon.

The necessity of cutting back overcapacities is the more pressing now that the Western European producers are facing increasing competition from U.S. producers of textiles and synthetic fibers.

A major factor in this growing overseas competition is the petrochemical feedstock and energy cost advantages enjoyed by U.S. producers. Since prices of domestic crude oil and natural gas are artificially being kept at a low level in the United States, U.S. competitors have unfair advantages over Western European producers. A closer examination of today's production costs of the same synthetic textile yarns in the United States and in the Netherlands and West Germany shows that the costs of petrochemical feedstocks and energy in the United States are approximately 25% lower, while on average these cost components account for 50% of the production costs of the products concerned.

Some chemical products and plastics are now also beginning to feel the pinch of U.S. competition.

Economic developments

In the 1978 annual report we were rather non-committal about the outlook for 1979. Such restraint was based on the high degree of uncertainty over the development of the general economy in important Akzo countries.

For the EEC countries a continuation of the upturn in economic activity that commenced in 1978 was considered likely.

In the United States, forecasts for 1979 were less hopeful. The possibility of a recessionary trend, due in part to sustained high inflation, was not excluded.

These predictions were mirrored by actual developments. But a special influence was exerted by the rapid succession of oil price hikes. Since 1978 the price of oil has more than doubled.

Initial fears of a shortage of oil-based products and of further price hikes caused growing demand in Western Europe and resulted in stockpiling in some branches of industry. In the Netherlands and West Germany, the chemical industry recorded a volume growth of approximately 6% (1978: 5%), with even substantially higher growth rates for commodity chemicals and plastics.

We view the development of the general economy in Western Europe in 1980 with some concern because of the negative effects of increasing oil prices, slowing growth and intensified international competition. Moreover, the business community, also outside of Western Europe, is plagued by rising inflation and high interest rates.

For the United States the slightly recessionary trend that set in at year-end is expected to dominate the general economic picture for a good portion of 1980.

Akzo has been able to share in the upturn in activity of the textile, plastic, rubber, and chemical industries, which are among its principal customers. Overall, these industries experienced in 1979 a production growth of more than 5%, which corresponded to the Group's volume growth.

Past and future

Akzo's tenth anniversary in November 1979 affords us occasion not only to review developments in this decade but also to set forth our policy for the years ahead.

Disappointing decade

It is beyond doubt that the development of the Group, formed through a merger of AKU and KZO, has been different from that envisioned in 1969 by the merging companies. At the time there were optimistic expectations as to the Group's ability to achieve, through growth, a more balanced product mix and further internationalization of its operations.

However, even before the 1973/4 oil crisis the Group faced decreasing profitability of man-made fibers, due to reduced growth in the consumption of man-made textile fibers. Subsequently, massive imports of textile products in Western Europe aggravated the situation. Since that time Enka's Western European operations have almost constantly been subjected to rationalization. Until the end of 1979, more than 13,000 jobs were lost through these measures. Enka's losses for man-made fibers, mainly due to the disappointing results for textile and carpet fibers, totaled approximately Hfl 1.2 billion in the period 1975-1979.

Although Akzo was the first company to start implementation of restructuring and capacity-reducing measures in its fiber operations, Enka's heavy losses eroded the financial position of the Group and limited opportunities of the non-fiber divisions. For them this meant that they had to follow a more selective policy regarding acquisitions and capital investments for expansion. In this respect it should be noted, however, that for our chemical operations the decrease in capital investments was primarily due to structurally lower growth and to the ensuing deterioration of profitability in important sectors of the industry after the 1973/4 oil crisis.

The objective of greater internationalization has only

partially been achieved because of financial constraints and a growing awareness that concentration on a limited number of countries would be in the best interest of the Group. The distribution of invested capital therefore did not undergo major shifts in the past decade. Similarly, the geographical distribution of capital expenditures for additions to property, plant and equipment in the years 1970-1979 has not shown any significant deviations from this pattern.

The difficulties encountered in the period 1975-1978 have left deep marks. However, the efforts to restore the Group's profitability have had a positive effect on growth potential.

In the first place, rationalization of our chemical fiber operations has substantially improved the composition of the line of products, and has done so at a progressive rate. A further contribution was rendered by the termination and divestiture of other operations whose profitability was insufficient or which did not meet our long-term objectives.

Further, a more efficient organization has been created, which is able to respond more adequately to external and internal developments.

Finally, we deem it of vital importance that the capabilities of the research function, which fully exploited the opportunities afforded by the merger, have not been affected.

Encouraging prospects

Akzo enters the eighties with cautious optimism in regard to the possibility of strengthening the Group's earnings base.

This optimism derives from the knowledge that rationalization measures have given us a better position for implementing the Group's strategy for the next ten years, which is primarily aimed at continued improvement of our product mix.

The optimism is cautious because, as we have learned from the oil crises, adverse economic conditions or political disruptions may further impair such modest economic growth as is now expected for the industrialized countries.

A large part of our product mix is made up of products which have earned us a good competitive position and which are expected to make a fair contribution to profitability, also in the years ahead. Together they constitute the mainstay of the Group and provide the resources needed to realize the essential innovations in our product mix.

These products are primarily sold in highly competitive markets. In order to cope successfully with competition, the commercial and technological positions of these products must therefore be supported energetically. A major role in this respect is played by research, where efforts for this category of products are concentrated in particular on improvement of quality and reduction of manufacturing costs. Typical examples are our electrolysis products (including derivatives) and industrial fibers.

The qualitative improvement of the product range is to come from innovations with high growth potential. These innovations usually originate in our own research, although our acquisition policy is also slanted toward adding products to our product mix that offer growth prospects.

Such products, which have enabled us to build up attractive technological and/or commercial positions, may be found primarily in the areas of pharmaceuticals, specialty chemicals, high-grade paints, and special equipment and components for advanced applications in such fields as electronics and health care. These product sectors will continue to show great potential for innovation.

Finally, we will continue to follow our policy of curtailment or termination of operations that are unprofitable or do not fit in with Group strategy. This, too, should help improve the quality of the product mix. Our endeavors to restrict the social consequences of this policy will be given due prominence, however.

Dividend policy

The resumption of dividend payment after a number of years without dividends has occasioned us to reconsider our dividend policy. The main issue is the question whether a policy of paying fairly stable dividends should again be adopted, or whether dividends should be more in line with the height of income.

After giving careful consideration to this matter, we have come to the conclusion that dividends should be matched more closely to income. Consequently, it will have to be accepted that the height of the dividend may show larger fluctuations from year to year.

Outlook

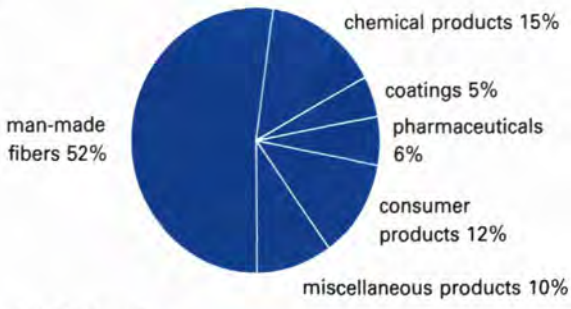
We are confident that the Group will be able to cope successfully with the uncertainties ahead and that for the majority of our products we are well set to maintain, and for some products even to expand, our positions.

Earnings of our man-made fiber and chemical operations in Western Europe will come under pressure, however.

Barring unforeseen circumstances, we trust that on the whole the Group will show a reasonable performance in 1980.

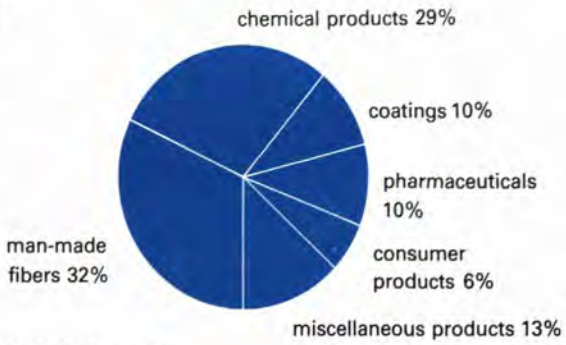
Sales, by product group

1969



sales Hfl 6,366 million

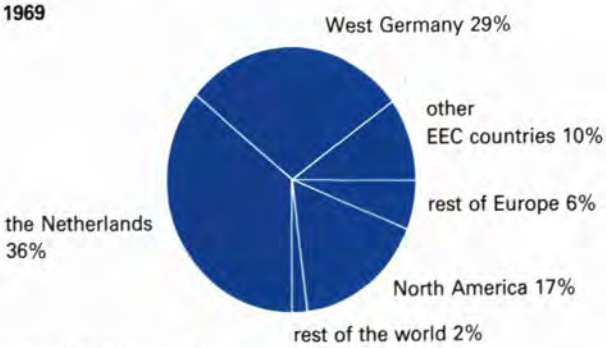
1979



sales Hfl 12,015 million

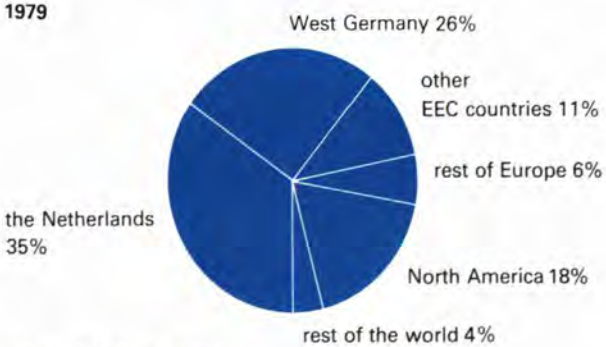
Sales, by area of origin

1969



sales Hfl 6,366 million

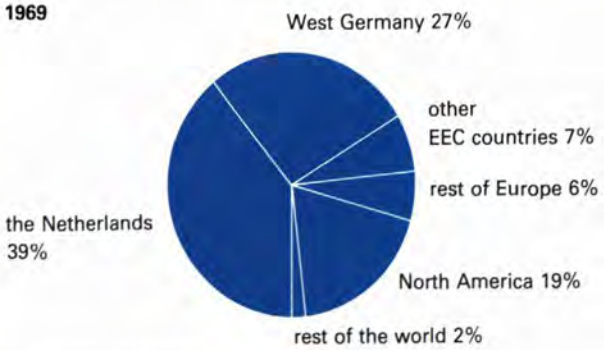
1979



sales Hfl 12,015 million

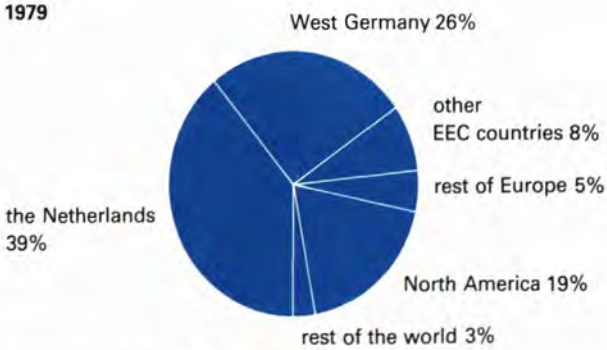
Geographical distribution of invested capital

1969



invested capital Hfl 5,707 million

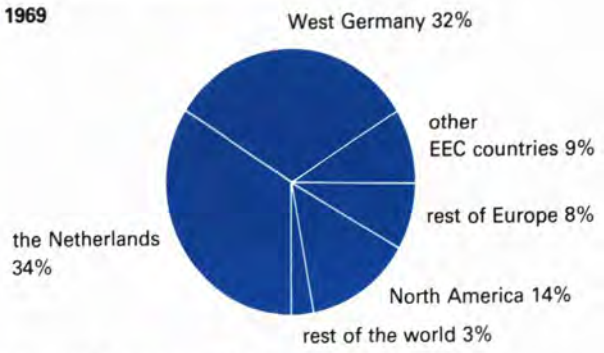
1979



invested capital Hfl 6,183 million

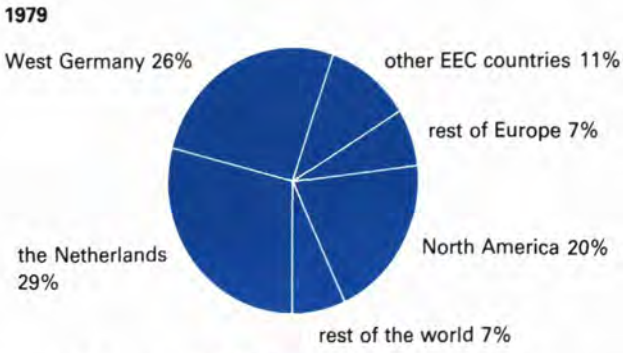
Geographical distribution of employees

1969



number of employees 100,300

1979



number of employees 83,000

Results of operations

8 **Sales, value added and operating income**

The table below shows that both sales and operating income of the consolidated companies rose substantially in 1979. The amount of value added also increased.

in Hfl million and in %		1979			1978
sales	12,015	100.0		10,666	100.0
raw materials, supplies, energy, and purchased services	(7,248)	(60.3)		(6,364)	(59.7)
depreciation	(506)	(4.3)		(486)	(4.6)
	(7,754)	(64.6)		(6,850)	(64.3)
value added	4,261	35.4		3,816	35.7
salaries, wages and social charges	(3,572)	(29.7)		(3,395)	(31.8)
operating income	689	5.7		421	3.9

The increase in sales in 1979 (13%) was considerably higher than in 1978 (2%). Below is a breakdown of the increase in the two years:

	1979	1978
shipments	+ 5%	+ 4%
prices	+ 10%	+ 2%
consolidation of companies	–	+ 1%
changes in exchange rates	– 2%	– 5%
total	+ 13%	+ 2%

The increase in shipments was gratifying, and the price level of our products was up appreciably. However, as we remarked earlier, the drastic price rises for raw materials and energy could not be fully absorbed in selling prices.

In 1979, the aggregate cost of raw materials, supplies, energy, and purchased services was up 14% to Hfl 7,248 million. With a total amount of approximately Hfl 5 billion being paid for raw materials and energy in 1979, prices were on average 17% higher than in 1978. The cost increase was significantly higher for products largely based on petrochemical feedstocks, such as man-made fibers, commodity chemicals and coatings.

The amount of value added was Hfl 445 million (12%) higher than in 1978. Expressed as a percentage of sales, it was 35.4% in 1979 compared with 35.7% in 1978.

At 5.0%, the increase in salaries, wages and social charges was more than offset by the gains in sales and value added, resulting in substantially higher operating income.

Operating income as a percentage of sales increased from 3.9% in 1978 to 5.7% in 1979. This increase was influenced by positive inventory valuation differences aggregating Hfl 194 million (1978: Hfl 44 million).

The following table presents a breakdown by quarter of sales and operating income for the last two years.

	sales		operating income		operating income in % of sales	
in Hfl million	1979	1978	1979	1978	1979	1978
first quarter	2,901	2,649	151	90	5.2	3.4
second quarter	3,048	2,671	164	102	5.4	3.8
third quarter	2,942	2,537	159	72	5.4	2.8
fourth quarter	3,124	2,809	215	157	6.9	5.6
total	12,015	10,666	689	421	5.7	3.9

Net income

In addition to the improvement in operating income, the lower burden of taxation had a positive effect on net income, which was Hfl 230 million in 1979, versus Hfl 24 million in 1978. Higher extraordinary losses, however, had a negative effect.

in Hfl million	1979	1978
operating income	689	421
interest	(259)	(248)
	430	173
taxes on operating income less interest	(136)	(113)
equity in earnings of non-consolidated companies	32	28
Group income before extraordinary items	326	88
extraordinary items	(60)	(25)
minority interest	(36)	(39)
net income	230	24

Interest expense remained on about the same level as in 1978. The increase in interest payable, principally due to new borrowings, was largely offset by higher interest received on cash and marketable securities.

The burden of taxation was much lower than in 1978. This is due to the substantial recovery of our earnings in the Netherlands, from which no deductions for taxes needed to be made because of losses carried forward from prior years.

Details on equity in earnings of non-consolidated companies are given on page 11.

Extraordinary losses relate in part to further restructuring in the man-made fiber sector.

For the calculation of income on the basis of the current value of property, plant and equipment, inventories, and investments in non-consolidated companies, the reader is referred to pages 52 and 53.

Sales and operating income by product group

A striking feature in the development of sales and operating income by product group in 1979 was the relatively large increase for chemical products.

in Hfl million and in %	sales 1979		sales 1978		operating income 1979	1978	operating income in % of sales 1979	1978
man-made fibers	3,852	32	3,567	33	74	10	1.9	0.3
chemical products	3,481	29	2,916	27	253	122	7.3	4.2
coatings	1,221	10	1,049	10	98	64	8.0	6.1
pharmaceuticals	1,274	10	1,211	11	134	140	10.5	11.6
consumer products	725	6	696	6	31	31	4.3	4.5
miscellaneous products	1,595	13	1,349	13	132	107	8.3	7.9
total	12,148	100	10,788	100	722	474		
intra-Group deliveries and non-allocated costs	(133)		(122)		(33)	(53)		
total	12,015		10,666		689	421	5.7	3.9

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.

Man-made fibers

Sales of *man-made fibers* were up 8%. This was the net result of a positive effect (10%) due to higher selling prices, and of a negative effect (2%) due to translation into guilders, at a lower rate of exchange for the U.S. dollar, of American Enka's sales.

The level of operating income from our man-made fiber operations in Western Europe and the United States is still inadequate. The weak market position of some man-made fibers did not permit direct and full absorption of the higher raw material and energy costs in selling prices.

Earnings of our Western European man-made fiber operations showed a further recovery in 1979, which was achieved by economies and higher capacity utilization. In the second half of the year, the market came under pressure due to increasing competition from the United States, which had a particularly severe negative impact on the position of British Enkalon. Early in 1980, these developments led to the decision to further adapt this operation to Enka Europe's strategy. In addition, production facilities will be modernized.

In the United States, the performance of American Enka was disappointing. Owing to weak markets for, notably, carpet nylon fibers, higher costs could only partially be offset by selling price increases.

Sales of *man-made fibers for textile uses and carpets* were up from Hfl 2,633 million in 1978 to Hfl 2,817 million in 1979. For the first time since 1974 a modest operating income was achieved. For a number of products, however, significant losses are still being suffered.

Sales of *man-made fibers for industrial uses* increased from Hfl 934 million to Hfl 1,035 million in 1979. Operating income decreased, principally as a result of lower earnings in tire yarns.

Chemical products

Sales of *chemical products* were up 19% to Hfl 3,481 million, which was attributable for 11% to higher shipments. The gain in operating income was substantial. Expressed as a percentage of sales, it rose from 4.2% in 1978 to 7.3% in 1979.

The majority of the gain was in *salt and heavy chemicals*, which are primarily marketed by Akzo Zout Chemie and International Salt (Akzona). They both enjoyed high volume sales of deicing salt because of the severe 1978/9 winter. In addition, Akzo Zout Chemie's commodity chemicals benefited from a strong upturn in this market sector. Besides improved selling prices and excellent capacity utilization rates for most plants, cost control programs contributed to the recovery.

Sales of salt and heavy chemicals increased from Hfl 1,794 million to Hfl 2,237 million in 1979.

The improvement in earnings from *specialty chemicals*, which comprise the products of Akzo Chemie and Armak (Akzona), was modest. Akzo Chemie's *products for plastic and elastomer manufacturers and processors* showed a healthy development, in contrast with *catalysts* and *organic chemicals*. All product sectors of Armak contributed to higher earnings.

Sales of specialty chemicals were up from Hfl 1,122 million in 1978 to Hfl 1,244 million in 1979.

Coatings

The *coatings* product group further strengthened its position. Sales increased by 16%, with one third of the gain being provided by higher shipments. As in the previous year, *automotive refinishes* was the primary contributor to the gain in sales, which exceeded the average gain in the industry by a significant margin.

In the year under review, earnings performance was again satisfactory.

The Spanish coatings company Ivanow S.A. was consolidated in 1979 after a majority interest was acquired.

Pharmaceuticals

The modest increase in sales and the slight decrease in operating income compared with 1978 mirror the slowing growth of *pharmaceuticals* in recent years.

Exceptions are Organon Teknika (hospital supplies and equipment) and Intervet (veterinary products), which again posted substantial sales gains in 1979. Earnings of Diosynth (pharmaceutical raw materials) were further depressed by a continuing decrease in selling prices for part of its products.

Consumer products

While sales of *consumer products* were up 4% over the prior year, operating income was unchanged. In a market characterized by fierce competition, price rises of raw materials and supplies could not be adequately absorbed in selling prices, notably in the sector of *detergents and cleaning products*. In the *foodstuffs* sector, an improvement in earnings was achieved through rationalization measures.

Miscellaneous products

The gains in sales and, especially, in operating income of *miscellaneous products* were mainly attributable to the strongly improved performance of *plastics* (Enka). In addition, the growth of Brand-Rex (Akzona) with its *wire, cable and electronic/electrical devices* for technologically advanced applications continued healthy, aided by the acquisition of two companies producing *components for the electronic industry*. Earnings of Barmag Barmer Maschinenfabrik (Enka) also continued their upward trend, due in part to a further diversification of its product line.

Sales and operating income by region

The table below presents a breakdown of consolidated sales and operating income by region.

in Hfl million and in %	sales* 1979		sales* 1978		operating income 1979	1978	operating income in % of sales 1979	1978
EEC countries	8,586	72	7,609	72	441	196	5.1	2.6
rest of Europe	711	6	573	5	56	40	7.9	7.0
total Europe	9,297	78	8,182	77	497	236	5.3	2.9
North America	2,224	18	2,027	19	113	99	5.1	4.9
rest of the world	494	4	457	4	79	86	16.0	18.8
total	12,015	100	10,666	100	689	421	5.7	3.9

* by area of origin

Europe

1979 sales of our Western European companies increased by Hfl 1,115 million to Hfl 9,297 million.

The Hfl 261 million gain in operating income to Hfl 497 million was primarily achieved by the companies in *the Netherlands*. The chief contributions were made by the salt and heavy chemicals segments, in which earnings rebounded from the unsatisfactory level of the prior year. In the Netherlands, man-made fibers made considerable progress, although in 1979 operating income was not yet positive.

Higher operating incomes were also achieved by our companies in *West Germany* and *France*. The loss suffered by British Enkalon depressed corporate performance in the *United Kingdom*.

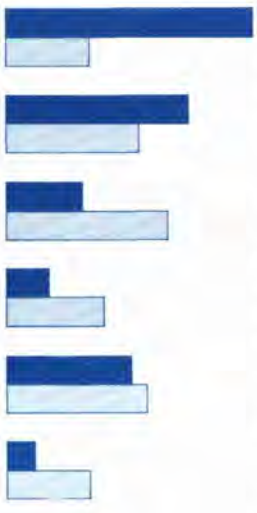
Earnings of La Seda de Barcelona, *Spain*, did not show any rise over 1978.

North America

Akzona's sales were up 17% to more than U.S. $ 1 billion. Operating income increased 30% to U.S. $ 61.5 million. With the exception of the man-made fiber division American Enka, all divisions contributed to the gains. Major contributions were made by International Salt and Brand-Rex, which recorded substantially higher earnings.

Sales (1979), by origin ● and by destination ○

	Hfl million	%
the Netherlands	4,212	35
	1,419	12
West Germany	3,087	26
	2,243	19
other EEC countries	1,287	11
	2,791	23
rest of Europe	711	6
	1,732	14
North America	2,224	18
	2,413	20
rest of the world	494	4
	1,417	12
total	12,015	100



American Enka again experienced a difficult year. Earnings performance was unsatisfactory due to substantial increases in petrochemical feedstock prices.

Armak recovered from the consequences of a protracted strike in one of its plants in the previous year, while Organon Inc. continued its positive development. Armira (leather) struggled through another difficult year with far from satisfactory operating income.

Rest of the world

In reviewing the favorable relation between sales and operating income of our companies in the "rest of the world", 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.

In Latin America, *Brazil* is the most important Akzo country. Practically all divisions have operations here, and most of these companies turned in a satisfactory performance.

The favorable prospects for this country are currently overshadowed by balance of payment problems and a very high rate of inflation. The series of depreciations of the cruzeiro was followed at year-end by a drastic devaluation.

Non-consolidated companies

Equity in earnings of non-consolidated companies was up from Hfl 28 million in 1978 to Hfl 32 million in 1979.

Substantial improvements in earnings over 1978 were achieved by the man-made fiber companies Fibras Químicas (Mexico) and Enka de Colombia. The PSSA group (Argentina), whose fiber company Hilanderías Olmos was supervised by the government for a few years, contributed fully and substantially to earnings again. The COBAFI nylon tire yarn plant (Brazil), which came on stream in 1978, already registered a profit in 1979.

The two methanol plants of Methanol Chemie Nederland and Methanor recorded higher earnings in 1979. These were offset by substantial losses incurred by the nitrogen derivatives operation of Stikstofderivaten N.V. (Belgium) and by Delamine B.V. (polyamines).

The table below presents a geographical breakdown of sales and invested capital of the Group's non-consolidated companies. (For employment statistics see page 15.)

	sales*		invested capital**	
in Hfl million	1979	1978	1979	1978
EEC countries	1,120	880	660	680
rest of Europe	230	200	120	130
total Europe	1,350	1,080	780	810
North America	50	50	5	10
rest of the world	970	700	850	920
total	2,370	1,830	1,635	1,740

* by area of origin

** at December 31

1979 sales of these companies break down into 45% for man-made fibers, 45% for chemical products and coatings, and 10% for pharmaceuticals, consumer products and miscellaneous products. Compared with the previous year, no major shifts occurred.

Shares in value added

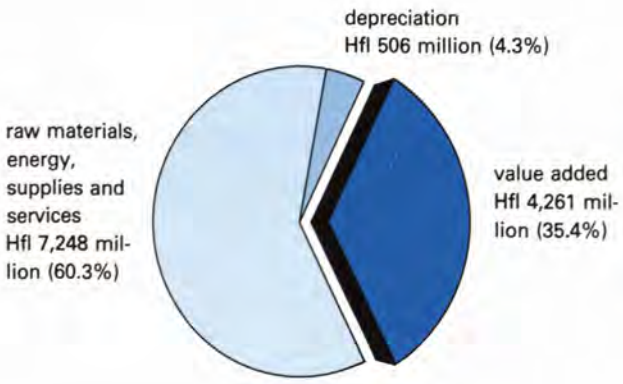
The charts on page 12 show Group value added in 1979 and the distribution thereof. Value added in the amount of Hfl 4,403 million also includes equity in earnings of non-consolidated companies and some other items of income. As in previous years, extraordinary items were omitted in the calculation of value added because of their unusual nature.

The shares in value added for 1979 and 1978 are given in the table below.

in %		1979		1978
employees		81.1		87.0
providers of loans		8.0		7.5
governments		3.5		3.3
stockholders (dividend)				
Akzo N.V. stockholders	1.6		–	
minority stockholders	0.4		0.3	
		2.0		0.3
Group equity		5.4		1.9
		100.0		100.0
total value added (in Hfl million)		4,403		3,905

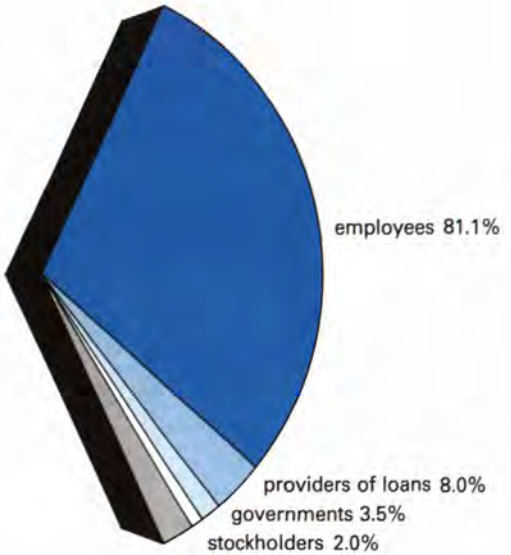
The share of stockholders in value added increased from 0.3% to 2.0% as a result of the payment of a dividend to Akzo N.V. stockholders. Compared with 1978, a greater portion could be added to Group equity.

Value added (1979)



sales Hfl 12,015 million

Shares in value added (1979)



Financing and capital expenditures

Group financing in 1979 was in balance as regards operational activities. Funds from operations (Hfl 976 million) were adequate to finance capital expenditures* (Hfl 527 million) and the rise in working capital (Hfl 451 million), excluding cash and marketable securities.

Borrowings and credits (Hfl 538 million) amply exceeded the amount for repayments (Hfl 202 million). This boosted liquidity considerably in 1979.

The table below presents a survey of Group financing in 1979, with 1978 figures added for comparison.

in Hfl million	1979	1978
working capital at January 1	2,108	2,228
funds from operations	976	659
capital expenditures*	(527)	(512)
borrowings	538	390
repayment of borrowings	(202)	(557)
Akzo N.V. dividend	(71)	–
other changes	(56)	(100)
working capital at December 31	2,766	2,108
of which cash and marketable securities	805	598

* as used in this section, capital expenditures denotes expenditures for property, plant and equipment, for other non-current assets and for acquisitions, less disposal of participations

Capital expenditures

In 1979, expenditures for acquisitions amounted to Hfl 120 million (1978: Hfl 93 million), largely relating to the acquisition by Brand-Rex (Akzona) of General Circuits, Inc. and Garry Manufacturing Co.

Expenditures for property, plant and equipment aggregated Hfl 461 million in the year under review, versus Hfl 434 million in 1978.

Such expenditures break down as follows (by product group and by region):

	expenditures for property, plant and equipment			
in Hfl million and in %	1979		1978	
product groups				
man-made fibers	141	31	125	29
chemical products and coatings	178	38	197	45
pharmaceuticals, consumer products and miscellaneous products	142	31	112	26
total	461	100	434	100
regions				
EEC countries	314	68	312	72
rest of Europe	16	4	11	3
total Europe	330	72	323	75
North America	117	25	93	21
rest of the world	14	3	18	4
total	461	100	434	100

The slight increase in expenditures reflects a tendency toward growth in additions to property, plant and

General Circuits, Inc., a 1979 acquisition of Brand-Rex Co. (Akzona) manufactures electronics parts.

Shown here is the final inspection of a multi-layered printed circuit board.

equipment. In the main, such additions are for modernization and rationalization of production equipment. The heightened activity is especially evident from project authorizations in 1979, which aggregated Hfl 890 million (1978: Hfl 449 million); approximately Hfl 270 million of this amount was for the construction of the new electrolysis plant.

Working capital and liquidity

Working capital was up more than Hfl 650 million in 1979. Inventories and trade receivables required Hfl 525 million more in financing, with Hfl 124 million of the rise being funded by an increase in short-term debt to suppliers. As a percentage of sales, inventories and trade receivables aggregated 35.9% at December 31, 1979, compared with 35.5% at December 31, 1978.

Cash and marketable securities were up Hfl 207 million to Hfl 805 million at December 31, 1979. This further increase in liquidity was effected in anticipation of higher financing requirements in the coming years.

The total amount of medium-term credit facilities arranged but not yet utilized decreased to approximately Hfl 650 million (at December 31, 1978: approximately Hfl 850 million).

Borrowings

Aggregate 1979 borrowings (Hfl 538 million) exceeded aggregate repayments (Hfl 202 million). This was attributable to the financing by Akzona Inc. of the acquisitions in the United States mentioned above, which called for an amount of U.S. $ 46 million. Furthermore, this enabled us to ease financing requirements for the years ahead, which are expected to increase. Our primary policy aim, however, continues to be the maintenance of an equilibrium in financing.

Borrowings contracted by Akzo N.V. included:

- a DM 50 million 6½% private borrowing, due 1986;
- a Hfl 125 million 9½% debenture loan, due 1983/1986;
- a Lfrs 500 million 9¼% debenture loan, due 1981/1987;
- bank borrowings in various currencies in the aggregate amount of approximately Hfl 70 million.

The average interest rate of borrowings of consolidated Group companies outstanding at December 31, 1979, was 8.9% (1978: 8.2%).

The consultations about the financing of the electrolysis project are expected to result in an agreement about the granting of a subordinated loan of Hfl 150 million.

On January 1, 1980, the first annual installment in the amount of U.S. $ 7 million was paid of the U.S. $ 70 million 4¾% convertible debenture loan floated by Akzo N.V. in 1969.

Financing requirements in the years ahead

Toward the refinancing of large aggregate installment payments, appeals to the capital market, especially in the Netherlands, will again have to be made in the years ahead.

Composition and financing of assets

in Hfl million and in %	Dec. 31, 1979		Dec. 31, 1978	
non-current assets	3,714	41	3,850	46
current assets	5,315	59	4,540	54
total	9,029	100	8,390	100
financed from:				
Group equity	2,733	30	2,628	31
long-term liabilities	3,747	42	3,330	40
current liabilities	2,549	28	2,432	29
total	9,029	100	8,390	100
Group equity : liabilities		0.43		0.46
Group equity : non-current assets		0.74		0.68
current assets : current liabilities		2.09		1.87

The increase in Group equity was restricted to Hfl 105 million, due to an exchange loss of Hfl 118 million upon the translation into guilders of stockholders' equities of foreign Group companies, at rates which for most currencies were lower than in 1978. The exchange loss reported last year was Hfl 194 million.

Insurance

The insured value of property, plant and equipment is almost entirely based on replacement value, and was approximately Hfl 18 billion at December 31, 1979 (at December 31, 1978: approximately Hfl 17 billion).

There were no fundamental changes in the nature and scope of our insurance arrangements.

Personnel policy and social developments

Employment

On a net basis, employment in the Group's consolidated companies barely changed in the year under review. Personnel strength at December 31, 1979 was 83,000 versus 83,200 at December 31, 1978.

This fact does not mean that no significant changes occurred. Thus, there were continued reductions at the European Enka companies and at American Enka, totaling 1,300 persons. But such reductions were effectively offset by Brand-Rex's acquisition of two companies and by the Spanish coatings company Ivanow's having acquired consolidated status.

The number of employees of the non-consolidated companies, principally located outside Western Europa and North America, was down 600 to 15,300 at December 31, 1979. The decrease relates to changes in non-consolidated companies. One of the companies with an increase in employment was the COBAFI nylon tire yarn facility in Brazil.

Additional information concerning employment changes in the Group's principal countries and regions of establishment is given in the tables below.

Employees of consolidated companies, in numbers and in %	Dec. 31, 1979		Dec. 31, 1978	
the Netherlands	23,700	29	24,300	29
West Germany	21,200	26	21,300	26
other EEC countries	9,600	11	10,200	12
total EEC countries	54,500	66	55,800	67
rest of Europe	6,300	7	6,000	7
total Europe	60,800	73	61,800	74
North America	16,200	20	15,600	19
rest of the world	6,000	7	5,800	7
total	83,000	100	83,200	100

Employees of non-consolidated companies, in numbers and in %	Dec. 31, 1979		Dec. 31, 1978	
EEC countries	3,400	22	3,800	24
rest of Europe	700	5	800	5
total Europe	4,100	27	4,600	29
North America	100	1	100	1
rest of the world	11,100	72	11,200	70
total	15,300	100	15,900	100

The reduction in the number of jobs at our European establishments was again largely concentrated in the overhead sector. This reduction reflects the necessity of adjustment to the lower rate of overall economic growth and to diminished cost-bearing capacity in certain industry segments. Similar conditions in the United States affecting man-made fibers required Akzona to take steps to curtail overhead expense.

In spite of continued efforts to control our overhead expense as a whole, appointments of young employees – even for positions of an overhead nature – are increasing. This development is particularly evident in plants and staff departments which had been pursuing restrictive hiring policies for several years consecutively. It is a necessary development if we are to ensure the quality of our staffing and a healthy age structure.

In our last report we noted that we were going to intensify the commercial exploitation of our know-how. As the major vehicles toward this goal we mentioned Akzo Engineering and Rijnconsult, which was incorporated in 1978 as the successor of our Organization Department. In 1979 we founded Akzo Systems, a new internationally oriented subsidiary, whose principal task it will be to render services to non-Akzo clients respecting the introduction, use and maintenance of information and communication systems. The move may preserve high-grade employment and possibly even create new jobs.

Looking to the future, we can not yet hold out prospects of a reversal in the trend of employment. For some Group sectors concrete streamlining and rationalization plans have already been announced, and the squeeze on overheads will continue to be near-universal. Although there are some compensating expansion projects planned, they are not of sufficient size to change the overall picture drastically. Another aspect of the matter is that where we do realize expansions and where we do have vacancies, we are finding it increasingly difficult to recruit operating personnel and craftsmen, especially in West Germany and in the Netherlands. The fact that this problem is encountered throughout industry confirms the existence of a general trend.

We realize, of course, that, in countries with a relatively high level of prosperity, employment on the shopfloor has gradually become less attractive, particularly to young people. We are responding to this development by giving closer attention to possible improvements in working conditions, and by structuring and automating jobs – especially the more disagreeable ones.

Calls for a shorter working week, motivated in part by hopes of controlling rising unemployment, are now frequently made in Europe, both nationally and internationally. However, under the present circumstances a shorter working week would lead us

into great – perhaps even insurmountable – difficulties. Given the costs and the problems in recruiting certain categories of personnel, our Western European companies can not afford to be leaders in the reduction of working hours because this would harm our competitiveness.

We welcome all appropriate steps by governments and labor and employer organizations which may lessen the discrepancy between supply and demand in the labor market, and note our willingness to contribute to their success to the best of our ability.

Labor relations and co-determination

In the area of labor relations and formal co-determination few outstanding events occurred in the year under review. There were hardly any strikes at Group companies; the sole work stoppage of major duration took place in one of Akzona's subsidiaries.

With respect to legislation on co-determination few concrete proposals are now in the making in the principal countries where we have operations. The resulting lull gives us an opportunity to judge the effectiveness of arrangements adopted in the recent past.

A noteworthy event in the year under review was the amendment, in the Netherlands, of the existing Works Councils Act, with the chief purpose of making the Works Council an independent body. As a result, management is no longer represented in the Council, while the Council's rights to information and its powers of advice and assent are substantially broadened. It is generally expected that this amendment of the law will have a distancing effect in the relationship between management and personnel representatives, which we think unfortunate. However, we shall do our best by means of good communications to foster an atmosphere of mutual confidence.

Another major consequence of the altered legislation is that it increases the pressure of work on the Council members. Since we attach great importance to a proper functioning of Works Councils, the Company will assist Council members in the development of ways and means of dealing methodically and efficiently with the problems before them. This policy should also be helpful in checking the decline in people's willingness to stand for a seat on the Works Council.

Human rights

The presence of Akzo companies in many parts of the world regularly gives occasion to questions about the Group's social and "political" conduct. These questions usually come from national and international agencies and organizations but some of them are being put by our own employees. They relate especially to infringements of fundamental human rights, particularly in countries with controversial regimes.

Although the political and public debate of these very complex issues is far from completed, we undeniably have a certain responsibility here. This responsibility, and such means as we have to exert influence in this regard, relate primarily to situations affecting our own employees. Where we participate in a business, our room for maneuver and our freedom to take a position may be restricted by the partnership.

We furthermore feel that a distinction should be made between situations where a company is already established in a country and situations where it is considering beginning operations.

While we do not believe it our duty as a company to explicitly declare ourselves for or against any political system, or for or against a particular government, we expect our managers to implement policies which fully respect human dignity and equality, even in countries where the fundamental rights and freedoms laid down in the United Nations Charter are not sufficiently guaranteed.

Research and engineering

Research and development

R&D costs were up Hfl 20 million to Hfl 460 million in 1979. The number of employees, however, was down 80 to 5,270 at December 31, 1979.

Over the last few years personnel reductions have occurred which are in the main attributable to diminished research activities for products that have substantially lower earnings potential for the eighties. This trend is expected to continue in the years ahead but further reductions in personnel strength should be largely offset by growing calls on research capacity from environmental and safety departments and by the need to recruit young talented workers for our research institutes.

Through better integration of research in the Group's strategy and planning, both Corporate Research and divisional research are now well-geared to help achieve the planned composition of our product line in the eighties.

The primary tasks of Corporate Research concern product and process innovation. This strategic function is exercised for five main areas – chemical products and processes, polymer systems, polymer additives, coatings, and biomedical systems – and for a group of heterogeneous items. Projects are planned in detail in consultation with divisional research, which has the first responsibility for product and process innovation. Another major function of Corporate Research is to provide expertise.

In divisional research, Enka's and American Enka's major concerns in the *man-made fiber* field are cost reduction by means of technological improvement and innovation of production equipment, and modifications in the properties of synthetic fibers to improve such features as "natural look". One justification of product-innovating research is provided by the new *Arenka®* aromatic polyamide fiber developed by Enka. A further major result of exploratory research is American Enka's wholly original process for the production of cellulosic fiber (*NewCell®*).

In *commodity chemicals*, the primary orientation of research is toward the improvement of technology and process efficiency. Systematic research by Akzo Zout Chemie has produced and made operational an important body of know-how in this field. Current research includes production processes with very high energy inputs. Realization of major energy economies in this area would open up bright perspectives.

In the *specialty chemicals* field, Akzo Chemie and Armak, with the support of Corporate Research, have in recent years begun exploring several interesting areas, such as polymer additives, synthetic acids on the basis of alpha olefins, antioxidants, and isocyanates. Meanwhile, a great many new products have entered the development stage. Showing great promise is Armak's development of porous polymers for use as membranes in microfiltration.

Akzo Coatings research has made major advances in improving the technological base of *coating products*, with the support of Corporate Research. The principal results of product innovation are water-thinnable and high-solids paints. These low-solvent coatings cause little (if any) pollution and save energy and labor. The development of technologically advanced paint systems is being vigorously pursued.

In *pharmaceuticals* research, Organon concentrates on human fertility and sex hormones, on drugs which have an effect on the central nervous system, on drugs for the treatment of cardiovascular diseases, and on diagnostics. At Organon Teknika, research projects include the quest for ways of improving ultrasound equipment for diagnostic purposes. Biomedical and biochemical researches are given increasing attention.

For *consumer products*, the volume of research activities is more modest. However, the development of a unique enzymatic toothpaste (*Zendium®*) is a good example of innovative research in this industry segment. The development of a phosphate-free detergent is another proof of the innovative research capability of Akzo Consumenten Produkten.

Enka and Akzona research also perform work on certain interesting *miscellaneous products*, some of which are the result of innovative research. Typical products in this category are dialysis membranes (Enka), special automotive pumps (Barmag), special products and systems for the electronic/electrical industries (Brand-Rex), and thermoplastic elastomers (Akzo Plastics).

In early 1980, Akzona Inc. and Enka AG agreed to cooperate closely on the fascinating and multifaceted theme of *membrane technology*. The two companies, which already possess significant know-how, will incorporate a joint venture in the United States and one in West Germany.

Engineering

In the course of the year contracts obtained from both outside clients and Akzo divisions improved Akzo Engineering's order position. The increase in workload for Akzo is clearly the result of heightened investment activity on the part of the divisions. For outside clients, access to its diversified know-how is a major inducement to employ Akzo Engineering.

We expect that Akzo Engineering will be well supplied with contracts in 1980, including consulting contracts.

Akzo Zout Chemie's fluid-bed electrolysis process enables separation of metals from liquids. Used to recover metals from effluent, it also has potential in hydrometallurgical processes. Tiny metal spheres added to the liquid together act as the cathode and sink as they collect precipitated metal. They are continuously removed and replaced by fresh ones.

Safety and the environment

Environmental protection

Last year's annual report stated that the Group had practically caught up with regulations in regard to *environmental protection*.

In the period 1950-1970, when the process industry was expanding rapidly, both industry and public authorities gave too little thought to the detrimental effects of such growth on the environment. Since then, the majority of the industrialized nations have made up much of the leeway.

A large biological waste-water purification plant, built with substantial financial aid from the government, was taken into use at Enka's rayon tire yarn facility "Kleefse Waard" in Arnhem in the year under review. We feel that this event marks the virtual completion of the phase of construction of pollution control systems in the principal countries where we are established.

We are now entering a second phase, in which the salvaging of valuable materials from waste streams is receiving increasing attention.

Thus, on Akzo Chemie's Amsterdam-Noord site, construction was begun of a high-capacity decomposer which is to treat spent sulfuric acid from both Akzo and non-Akzo facilities toward the preparation of fresh acid.

In the year under review, Enka decided to construct on its Arnhem site a plant for the recovery of dissolved zinc from effluent which is now discharged into public waters. The recovery process which salvages the zinc for readdition to the spinning bath in rayon tire yarn production is a proprietary development and has demonstrated its viability in a pilot unit.

Substantial government grants were obtained for both the acid decomposer and the zinc pilot unit.

The third phase in fact has its origins in the early seventies. It is to be devoted to the development of non-polluting processes: an objective which both Research and Akzo Engineering are committed to pursue energetically. Although the work may be less spectacular to outsiders, it will require great inventiveness and effort from the people engaged in it.

Safety

The rapid growth of the chemical industry has everywhere made people wonder what its consequences are for man and his environment. With regard to *product safety* we wish to take care that, prior to launching a new chemical product, we have a scientific assessment of its physiological and ecotoxic properties. Where necessary, this will enable specification of procedures to be observed in or after use.

It is the task of the authorities, in consultation with the interested parties, to formulate balanced legislation which guarantees a high degree of safety but does not frustrate industrial innovation. We are not sure, however, that this will be the case if lawmakers should take as their model the registration of such physiologically active substances as pharmaceuticals and crop protection products.

However, the EEC directive approved in 1979 contains starting points which make possible a realistic implementation of legal regulations.

Petrochemical feedstocks and energy

Subsequent to the shock of the 1973/4 oil crisis, the world was again confronted with extreme oil price rises, which pushed up the price level of petrochemical feedstocks and energy in the year under review.

Akzo Group expenditure for raw materials and energy in 1979 was approximately Hfl 5 billion, with raw materials accounting for about 85%.

In the raw material category, petrochemical feedstocks had an important share, at about Hfl 2 billion, or some 50% of the total. They are used principally in the production of synthetic fibers, plastics, commodity chemicals, and coatings.

The other raw materials include cellulose (rayon products), inorganic chemicals, vegetable and animal products (typically used in producing fatty acids and fatty acid derivatives), pigments (coatings), steel wire, and copper (Brand-Rex).

The Group's energy consumption (1979: approximately Hfl 0.7 billion) relates to the following fuels or energy types, in descending order of importance: natural gas, purchased electricity, coal, and fuel oil. The greater part of fuel and electricity consumption is for the production of salt and commodity chemicals, and of man-made fibers.

Price rises in 1979 resulted in an extra cost to the Group of approximately Hfl 0.7 billion for petrochemical feedstocks, equivalent to an average increase of some 30%. The rise in purchase prices was greater for our Western European than for our U.S. operations.

Petrochemical feedstocks

Salt excepted, the Group does not command captive sources of basic raw materials and petrochemical feedstocks.

After the 1973/4 oil crisis, when the supply of these materials became a matter of growing concern, we gave this situation careful consideration. In the end we concluded, however, that acquisition of such sources was not essential to ensure the Group's continuity. Quite apart from the practicability and, especially, the financial consequences of backward integration, we are convinced that so far the advantages of a flexible purchasing policy have outweighed those of integrated operation. These advantages have been enhanced by the depreciation of the U.S. dollar and by prolonged overcapacity in the petrochemical industry.

A problem confronting the chemical industry is the difficulty of getting raw material and energy price hikes passed on fully and without undue delay. Industry-wide and for the Group, this difficulty was less for commodity chemicals than for synthetic fibers in the year under review.

The greater part of Group purchases of petrochemical feedstocks are earmarked for the production of synthetic fibers and plastics. The continued market weakness for a significant portion of synthetic fibers, particularly in the Western European industry, explains why at the end of 1979 some price rises had not yet been absorbed in selling prices.

The importance of these price rises is illustrated by the large share of petrochemical feedstocks in the production cost of textile fibers. In the region of 30 to 45% before the 1973/4 oil crisis, the share has since gone up to 40 to 60%.

Energy

Our 1979 energy bill amounted to some 6% of sales. As observed above, the greater part of energy consumption is attributable to a limited number of products whose energy input can be up to five or six times the above percentage. This is true, for instance, in the case of electrolysis products.

Much of our energy consumption is accounted for by our plants in the Netherlands and West Germany. Their 1979 overall consumption pattern was as follows:

	in Hfl million	in %
natural gas*	315	70
purchased electricity	100	22
fuel oil	35	8
total	450	100

* excluding natural gas used to produce petrochemical feedstocks such as methanol

Since 1973, the prices paid by our plants in the Netherlands and West Germany for natural gas and fuel oil have on average increased fourfold.

The importance of energy costs is demonstrated by the fact that an increase in the price of fuel oil of Hfl 10 per ton (approximately 3%), assuming it is fully reflected in electricity and natural gas prices, would boost costs of our operations in these countries by Hfl 18 million yearly.

Following the 1973/4 oil crisis the Group has been giving growing attention to energy conservation possibilities, which may be illustrated by reference to the situation in the Netherlands.

The first, or "good housekeeping", approach has so far achieved economies of modest extent. It is our experience that where a special investigation team working with operating personnel looks into the further conservation potential, economies of the order of 6% are practicable.

More substantial savings, requiring capital investment, are possible where existing production processes are modified or replaced by processes which are more energy efficient. This is aptly illustrated by the results accomplished in reducing the electricity input per ton of chlorine in the electrolysis process. Thus, the electricity consumption per ton of chlorine of the new membrane-type electrolysis unit to be built in Rotterdam will be more than 15% lower than the average consumption of our mercury electrolysis plants. Given an annual output for the new unit of 250,000 metric tons of chlorine, this translates into economies of the order of 170 million kWh yearly.

A third way of effecting savings is to co-generate heat and power. This is, in fact, long-established practice in our fiber and chemical plants.

Often enough a single plant will not be able to make the most efficient use of heat and power generation facilities because output and consumption do not match. Where several manufacturing units can be combined, it is usually possible to accomplish a better balance between the production of energy and its consumption.

Also, more generous terms for feeding an electricity surplus into the public grid would go a long way toward resolving this problem. The increased ability to sell surpluses, primarily of electricity but – at least in principle – also of heat, would make it more attractive for manufacturing operations to produce energy and would save the community money.

Industry's recognition of the importance of this matter is shared by the Dutch government, which has set up a committee which is to report on the issues involved. Akzo is represented on this committee.

For its energy supply Western Europe is largely dependent on imports. Understandably enough, the public authorities and the community at large are

looking first at the major consumers of energy, of which the chemical industry is a typical representative. In the Netherlands itself, voices advocating curtailment of energy-intensive industries in favor of activities more sparing of scarce and costly energy resources are increasingly heard.

We were therefore prepared for the fact that Company plans for the construction near Rotterdam of a large electrolysis unit would not meet with universal acclaim and that the energy aspect would be prominent in the discussion. The energy aspect was also given emphasis since we feel, with other large-scale users of energy, that natural-gas and electricity charges in the Netherlands ought to be on approximately the same level as those in the countries surrounding us, lest the competitive position of important Dutch industries be complicated unduly.

In extensive consultations with the authorities we secured a large measure of acceptance of the reasons underlying our decision to build a new electrolysis unit in Rotterdam, stressing the fact that we will be using Dutch salt and natural gas.

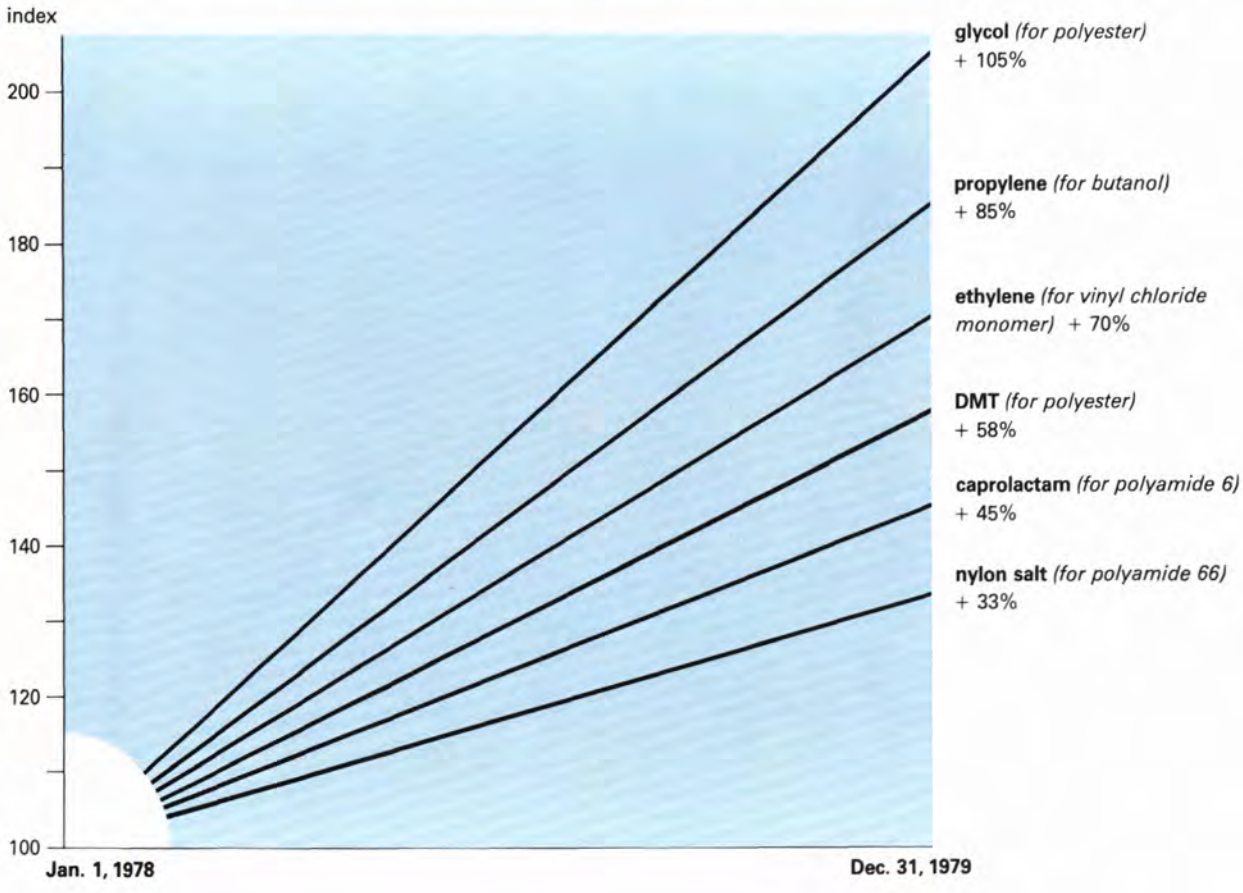
The electrolysis process for the production of chlorine and caustic soda requires relatively large amounts of electricity, although the new unit is to be among the most energy-efficient ones ever built. However, it is proper not only to consider this stage of production, but also the further processing of chlorine.

About half of the combined chlorine output of the Rotterdam, Delfzijl and Hengelo facilities is to be used by our VCM plant in the Botlek area. With ethylene, VCM (vinyl chloride monomer) serves to make PVC plastic, the production of which is also largely concentrated in this area.

In the production chain extending from natural gas (for power generation) through salt, electricity, chlorine/ caustic soda, and VCM to PVC, especially the stages of producing VCM and PVC yield so much value added that, surely, utilization of the two Dutch resources (natural gas and salt) to produce PVC by way of chlorine is wholly justified. There is in addition, however, a sizable spinoff in employment.

Also, it should be taken into account that PVC has a low energy content compared with competitive materials.

Increase in purchasing prices of selected petrochemical feedstocks in 1978-1979 (Akzo, Western Europe)



Man-made fibers

in Hfl million	1979	1978	% change
sales: textile uses	2,817	2,633	7
industrial uses	1,035	934	11
total	3,852	3,567	8
operating income	74	10	
operating income, as percentage of sales	1.9	0.3	

22 **This product group comprises filament yarns and staple fibers of polyamide, polyester, acrylics (staple), and rayon; it further includes steel cord.**
Typical textile uses are: apparel, carpeting and other home furnishings, and household textiles.
Typical industrial uses are: auto tires, conveyor belts, seat belts, fishing nets, ropes, and building and construction materials.

For its textile filament yarns and staple fibers, Enka Europe pursues a selective policy primarily designed to defend strong positions on the Western European market. Given the present fierce competition, this approach requires constant vigilance in regard to the cost effectiveness of the organization and the quality of the products. These objectives carry with them the need for innovative R&D contributions and, particularly, for creativity and dedication on the part of personnel.

For industrial fibers, all essentials in regard to quality, technology, and product and end-use innovation have been fulfilled for a major worldwide position to be maintained.

Outside of Europe, Enka confines itself to participation in expansion and modernization of production facilities of existing joint ventures, with finance in principle being arranged by the joint venture.

American Enka, the man-made fiber division of Akzona, continues to seek an improved earning capacity both by modernization of production processes and by emphasizing strong products.

Operating income from man-made fibers showed further growth in 1979. The level of profitability achieved remains inadequate, however, with downward pressure coming from rising raw material prices and – especially in the case of synthetic textile and carpet fibers in Western Europe – by structural factors related to overcapacity.

Western Europe

For the majority of man-made fibers the Western European market situation continued to be unsettled in the year under review.

By the end of 1978, the business environment appeared rather encouraging in regard to textile and carpet fibers. Hopes for a further improvement in results were shattered, however, by the subsequent petrochemical feedstock and energy price waves. The fact is that market softness made it impossible at once and fully to absorb the substantial cost increase in selling prices of synthetic filament yarn and staple.

Accelerating imports of textile products and semi-manufactures and of synthetic fibers, especially from the United States, likewise constituted a drag on the recovery.

A positive effect was exercised by the continued cyclical recovery of the Western European textile industry; in the EEC countries, production gained 4% over 1978. The carpet industry in this region remained in a tight corner, however.

This was also the case for the auto tire industry, which is still laboring under significant overcapacity. In contrast, the other industries using non-textile fibers were showing gains.

Enka Europe is increasingly reaping the rewards of the cost-cutting policies strictly enforced since 1975. Its shipments showed a modest growth, with plants operating at near-capacity.

Capital investment programs aimed at a more rational allocation of production among the Western European plants, as well as at modernization of equipment and cost reduction, were stepped up. Such selective investment is necessary to protect the market position.

We now pass on to a brief review of the development of Enka Europe's fibers in 1979.

Textile fibers

Polyester filament yarns, especially the textured ones, experienced the pinch of imports from the United States. As a consequence, results continued negative – if less so than in 1978. Enka was nevertheless able to maintain its leading position in the Western European market. A start was made on the modernization of production of both flat and textured yarns.

Polyester staple sold in substantially higher volumes in Western Europe but logged disappointing, negative results. Over and above the squeeze on prices arising from persistent global overcapacity, raw material price hikes impacted staple with special severity because of the relatively high share (approximately 60%) of raw materials in the product's prime cost. Further cost-cutting measures are to bring improvements in earning capacity.

Polyamide filament yarns, including high-grade yarns for the knitting industry, were able to preserve their market position. Production capacity for these yarns was substantially reduced over the last few years by Western European manufacturers and particularly by Enka.

Rayon filament yarns benefited from a trend in fashion to use rayon fabrics in ladies' outerwear. Demand for lining fabrics, the principal market, was stable. Further plant closures by competitors induced cancellation of the decision to discontinue production of rayon yarns in the Sankt Pölten plant (Austria).

Carpet fibers

In the weak carpet market, volume sales of *polyamide filament and staple* were slightly down from 1978. Sales revenues did not cover costs, with product prices reflecting only part of the higher cost of raw materials.

Major modernization investments should help our fiber operations cope with increasing international competition.

The photo is of a spinner in the Emmen industrial yarn plant.

Imports of U.S. carpets and polyamide carpet yarns were especially harmful to the British market.

The introduction of new yarn types which impart "natural look" characteristics to carpets was successful.

Moves were initiated to modernize production facilities and concentrate production in fewer locations.

Industrial fibers

Continuing favorable business conditions for the automotive industry, a sharp upturn in demand for coated fabrics and conveyor belting, and a temporary worldwide scarcity of polyamide yarns gave an unforeseen boost to shipments of Enka's industrial fibers. On average, revenues increased at a lower rate than costs, however.

Consumption of *rayon tire yarns* decreased further, though considerably less than in previous years. As 1979 wore on, there were signs of a stabilization of consumption. By the end of the year, there was even an upturn in demand, caused in part by capacity curtailments elsewhere. As a result the capacity utilization rate of the Enka plants was up significantly in early 1980.

Production of *steel cord* in the Oberbruch plant (West Germany) will gradually be brought in line with the changing market requirements in terms of technology and product specifications.

Demand for *polyamide and polyester yarns* could not be fully met in the year under review. Both categories of yarn benefited from the upsurge in demand for coated fabrics and conveyor belting. Prospects for new applications continue promising. In the Netherlands and in West Germany the first stage of a modernization program was initiated.

Enkamat® industrial matting composed of crinkly loops of polyamide has meanwhile proved its great value in building construction, soil engineering and farming.

United States

In the early months of the year under review, the market situation for the man-made fiber industry was characterized by a continuation of the recovery which began in the course of 1978. Before the summer months, however, market weakness set in. For one thing, this was due to an uncertain and recessionary economy. For another, the man-made fiber industry was confronted after the first quarter of 1979 with price rises of raw materials and energy, while customers only grudgingly accepted fiber markups, and then often only partially.

American Enka, which celebrated its fiftieth anniversary on July 1, 1979, was not exempt from the effects of this market weakness. Especially in the second six months of the year, demand for *polyester textile filament* and *polyamide carpet filament and staple* sagged. Staple sales in particular were depressed by slackness in the carpet market, causing significant losses. For *polyamide textile filament*, on the other hand, American Enka benefited from a favorable trend in women's fashions; sales of its new *Softalon®* hosiery yarn were especially successful.

Rayon staple, including *Absorbit®* fiber for hygienic products, had another outstanding year.

Rest of the world

Most Enka group companies in the "rest of the world", which report to Enka International and are mainly established in Latin America, turned in satisfactory performances. Market situation and prospects encouraged most companies to expand or consider expanding production capacity.

Thus, Fibras Químicas in Mexico (40%-owned) resolved upon a phased expansion of polyamide and polyester filament production capacity by more than 40%.

Enka de Colombia (48%-owned) will likewise step up its spinning and aftertreatment capacity of polyamide and polyester textile filament in a major way. Plans for additions to tire yarn capacity are under study.

In Brazil, COBAFI (45%-owned), in its first year of production of nylon tire yarns, achieved satisfactory results in terms of both quality and sales volume. Polyenka (51%-owned) was able to cash in on a substantial upturn in demand for polyester textile filament. Capacity-stretching measures are under consideration for both companies.

Modernization and expansion plans are also being contemplated or have already been approved for the subsidiaries in Ecuador, Argentina and India.

Research and development

Concentrated efforts are being made to so improve the manufacturing process of synthetic fibers that lower production costs result.

Enka developed a wool-type polyester staple variety (*Diolen® 742*) suited for carrier-free dyeing. This new staple is complementary to the *Diolen® 42* cotton type developed a few years previously.

The new aramid fiber *Arenka®*, which has very high strength and modulus, completed successful try-outs in several new fields.

American Enka is to undertake the further development, on pilot-plant scale, of a proprietary process for the production of cellulosic fiber (*NewCell®*); this process is less energy-intensive and has minimal environmental impact.

Chemical products

in Hfl million	1979	1978	% change
sales: salt and heavy chemicals	2,237	1,794	25
specialty chemicals	1,244	1,122	11
total	3,481	2,916	19
operating income	253	122	
operating income, as percentage of sales	7.3	4.2	

This product group comprises:
salt and heavy chemicals, such as
salt, chlorine, caustic soda, soda ash, vinyl chloride monomer; monochloroacetic acid and derivatives, chlorinated hydrocarbons, crop protection chemicals; acetic acid, butanols and acetates; methanol and derivatives, methyl amines, polyamines; fatty acids, vegetable oils, fluorine compounds, sulfuric acid, carbon disulfide, and sulfo products;

specialty chemicals, such as
organic peroxides, rubber chemicals, fillers, PVC stabilizers and other products for plastic and elastomer manufacturers and processors;
organic chemicals, including fatty acid esters, nitrogen derivatives, raw materials for the detergent industry, sequestering agents, disinfectants, gluconates, paper chemicals; catalysts for the petroleum, petrochemical and chemical industries.

One of our primary goals continues to be consolidation and expansion of our strong positions in chemicals.

With regard to salt, this translates into moves to strengthen evaporated salt, rock salt and solar salt operations in Western Europe, the United States and Brazil.

The Western European position for chlor-alkali and chlorine-based products should be considerably improved by the expansion of electrolysis capacity in Rotterdam, using membrane technology.

Our significant positions in specialty chemicals, in particular organic peroxides and nitrogen derivatives, are slated to be strengthened by a more balanced distribution among the chief regions of establishment, namely Western Europe, the United States, Japan, and Brazil. This overall aim will be further advanced by addition of a few new products and by process improvements respecting certain specialty chemicals.

Adjustments in organization and overhead burden will be implemented in line with the above strategy.

Given this program of action and taking into account that the chemical industry has entered upon a period of lower growth, we think we may face the future with confidence.

Salt and heavy chemicals

Sales and operating income of this product group advanced substantially from unsatisfactory 1978 levels. Inventory profits and stockpiling moves by customers were only a modest factor in this development. Nearly all plants operated at high capacity utilization rates.

Salt

Western European shipments of *chemical salt and deicing salt* were ahead of 1978. A portion of the volume increase related to the replenishment of deicing salt stocks depleted at the end of the severe 1978/9 winter season.

In the United States, International Salt (Akzona) showed a similar satisfactory performance, with salt being in short supply due to a combination of chance circumstances.

In Hengelo, rationalization of production and distribution of packaged salt was begun under a medium-term capital investment plan.

We acquired the Ernst Ryberg A.B. salt trading operation, thereby expanding our salt selling and distribution channels in Sweden.

Chlor-alkali products

The expansion of electrolysis capacity of the Rotterdam plant by 250,000 metric tons of chlorine per annum makes possible the switch to a less energy-intensive electrolysis process using membrane technology; in addition, it will significantly reduce purchases and transportation of chlorine. The scale-up will reinforce integration of our salt, chlor-alkali and vinyl chloride outputs, the principal beneficiary being *vinyl chloride monomer* (VCM), the raw material for PVC plastic.

Contrary to our projections, a major improvement in the European PVC and VCM markets helped achieve a very satisfactory utilization rate of our Rotterdam VCM facility, whose capacity was increased to 500,000 metric tons per annum by mid-1979.

Given the upward trend in energy prices, we see a promising future for PVC because its energy input is lower than that of competing products.

The higher cost of energy boosted prices of both *chlorine* and *caustic soda*, although the reaction time for chlorine prices was much longer.

However, the principal stimulus for a material improvement in the very low price level of caustic soda came from the world market: starting around the middle of the year, it began a fast rebound. We foresee good sales potential for *Natrets® caustic prills* in Western Europe because they are so much easier to process. Production was begun at Delfzijl in the year under review.

The long deferral of anti-dumping measures by the European Community with regard to the importation of *soda ash* from Eastern European countries and the threat of importation of natural soda ("trona") from the United States prevented the full reflection of cost increases in selling prices and will make it difficult to maintain our

Akzo Zout Chemie introduced Natrets® *caustic minipearls which offer customers greater ease of handling than caustic flakes. The new Delfzijl plant has an annual capacity of 40,000 metric tons.*

export positions outside Western Europe.

We feel, therefore, that consideration by the EEC of anti-dumping measures should be speeded up considerably.

Petrochemicals

With oil prices rising, the market for petrochemicals was firm. Factors reinforcing the market's readiness to buy were the low level of inventories held by the industry at the beginning of the year and the absence of significant supplies originating in new production capacities.

Earnings for *chlorinated hydrocarbons* were satisfactory, in spite of low growth in demand.

Shipments of *monochloroacetic acid* were up, partly as a result of a boom in demand for crop protection products.

Methanol is produced and sold by two joint ventures at Delfzijl. The supply of this commodity chemical was reduced by significantly lower imports, and the shutdown in Western Europe of obsolete units and of units using naphtha for feedstock. We expect the favorable market situation to continue because of the expansive growth of new applications of methanol, whether as a raw material (e.g. in the manufacture of acetic acid and MTBE antiknock) or as an automotive fuel (added to gasoline). As a result, the business outlook for Methanol Chemie Nederland (50%-owned) and Methanor (28%-owned) has much improved.

Delamine (35%-owned) at Delfzijl likewise has good growth prospects. While it closed 1979 on a substantial loss, it hopes to benefit from improved market conditions for *polyamines* in Western Europe in the next few years.

After the start-up period, the outlook for the *monochloroacetic acid* facility of Denak (50%-owned) in Japan has been brightened by the lower exchange rate for the yen, which greatly improved export volumes.

Industrial chemicals

Sulfuric acid, sulfo products, carbon disulfide and their derivatives continued their satisfactory performance. As a result of delays in the completion of production facilities in Eastern Europe, our carbon disulfide capacity was fully utilized. Earnings for *fluorochlorohydrocarbons* were depressed by a continuing decline in aerosol consumption and sharply increased raw material costs.

Akzo Chemie is scheduled to build an acid decomposer at its Amsterdam-Noord site. Spent sulfuric acid from company-operated and other plants may be reprocessed by means of this decomposer, ultimately yielding commercial-grade fresh acid. Under the existing environmental regulations the government will make a major financial contribution.

The commercial development of *N.A.S.* (sodium aluminum silicate) does not yet permit large-scale production, since legislation on the replacement of phosphates in detergents has not yet come in force in all countries relevant to the Group.

Research and development

With a view to broadening the commercial scope of our proprietary fluid-bed electrolysis process whereby metals are removed from fluids, we have begun cooperating with an internationally operating U.S. firm of consulting engineers.

With energy costs mounting, solar salt production is receiving greater emphasis.

Overall, research seeking to lower the energy intensiveness of chemical processes now has a higher priority.

Specialty chemicals

Sales and operating income were ahead of 1978, with Akzo Chemie's products for plastic and elastomer manufacturers and processors and Armak's products as the primary contributors.

Products for plastic and elastomer manufacturers and processors

In 1979, the market for these products grew at a very satisfactory rate.

Volume has been especially robust for *peroxides*, for which expansions of manufacturing capacity are under way or have been completed in the United States, Japan, Belgium, and the Netherlands.

The West German health authorities approved for use in the PVC packaging materials industry our new generation of *tin stabilizers*, thereby enabling us to move forward with the construction of a production facility at the Amsterdam-Noord site.

For *EC-black*, a carbon black with unique conductivity properties, some major breakthroughs were realized. A second plant is under construction in Japan and plans for a third are being considered.

Organic chemicals

The start-up of the *nitrogen derivatives* plant at Mons (Belgium) was seriously hampered by problems of a technical and qualitative nature. Major efforts to overcome these start-up troubles led to considerable improvements in process control. Although the problems have to a large extent been resolved, further measures will have to be implemented. Still, we anticipate for the coming years a distinctly upward trend.

Armak will expand the capacity of its production

Based on alpha olefins, new synthetic acids developed by Akzo Chemie have a branched structure which is unique. The special properties of derivatives of these acids may be of great value in high-grade lubricants and other products.

facility for these products at Morris, Illinois.

The elimination of the start-up troubles at the Mons plant, combined with further results of our research efforts, should bolster our leading, and geographically well-diversified, market position for nitrogen derivatives in North America (Armak), South America (Polyquíma Indústria e Comércio), Western Europe (Akzo Chemie), and Japan (Lion Akzo Co.).

Earnings from *fatty acids*, which serve in part as a basic material for our peroxides, stabilizers, nitrogen derivatives, and esters, were adversely impacted by high raw material prices.

The upturn in the Western European papermaking industry and a broader geographical base of our shipments boosted earnings of our *paper chemicals*. Earnings from *sequestering agents*, *detergent raw materials* and *gluconates* were also up markedly.

Catalysts

In Western Europe, the performance of this product group continued to be depressed.

Shipments of *desulfurization catalysts* moved ahead in the United States (Armak) and in Japan (Nippon Ketjen). We anticipate that the ever stricter antipollution requirements and the increasing use of high-sulfur fuels will enable us to realize in the years ahead a substantial volume growth in international markets, notably in the United States and in Japan. A contribution will have to be provided by new types of desulfurization catalysts, whose development and introduction are progressing satisfactorily.

On the basis of new technology we developed *cracking catalysts* which are to bolster our position in the world market. Initial customer response is favorable and we expect to further expand our production capacity for these new types.

Catalysts for the chemical industry showed a healthy development in 1979. Good progress was made with the introduction of new products.

Brazil

For the last few years, Akzo Chemie. through its subsidiary Polyquíma Indústria e Comércio S.A., has been operating production facilities in Brazil for organic peroxides, thermoplastics additives, coatings additives, and nitrogen derivatives. For nitrogen derivatives, whose growth potential is considered great, expansion of the production facility is being contemplated.

Polyquíma turned in a satisfactory performance; for 1980, the company is scheduled to launch locally developed tin stabilizers for the PVC industry.

Research and development.

Below are some R&D highlights for the year under review:

- new *organic peroxides*, such as aqueous peroxide suspensions, peroxides for diverse applications including metal casting, a highly active and safe peroxide for PVC, and flame-resistant peroxide pastes;
- new *stabilizers* for use in PVC and PVC products;
- new *desulfurization catalysts* and *molecular sieves* with higher density and enhanced thermal stability;
- products and derivatives based on *synthetic acids* on the basis of alpha olefins, which are now available for commercial evaluation. This also includes *telomeric acids and derivatives*, with the lubricant industry as a potential market.

Armak made considerable headway in the production and application of its proprietary *porous polymer* (*Accurel*®) and systems based on this polymer for the interesting fields of microfiltration (membrane technology) and of controlled release of active ingredients.

Coatings

in Hfl million	1979	1978	% change
sales	1,221	1,049	16
operating income	98	64	53
operating income, as percentage of sales	8.0	6.1	

This product group comprises paints, stains, synthetic resins, and adhesives for:
industrial markets, e.g. the road and rail vehicles, aircraft, metal products, wood products, and furniture industries;
trade markets, e.g. auto refinishing, house building, road marking, shipbuilding and maintenance, and general construction;
the do-it-yourself (DIY) market.

Akzo Coatings is among the world's largest producers of paints, with establishments in some twenty countries. It owes this prominent position to its broad line of high-grade products, which, aided by modern marketing, find their way to various categories of consumers.

For the eighties, Akzo Coatings aims to strengthen and expand its international position. It sets this goal in the confident expectation that research will continue to

furnish its innovative contributions, so that its technological lead in market sectors with attractive growth potential is preserved.

One important condition for the achievement of these aims is that it go on giving efficient service to both customers and end-users.

Akzo Coatings continued its favorable development, which was in part attributable to the rationalization measures in recent years.

Nearly all product lines and subsidiaries contributed to the gains in sales and operating income.

House paints and DIY paints

As in 1978, the demand for house paints and DIY paints in the Western European countries showed little growth in the year under review. Even so, earnings were quite satisfactory in most countries. One positive factor here was an extension of the range of available colors by means of mixing machines which, installed with wholesale dealers and retailers, are playing a role of growing importance in distribution. Also helpful has been the Acoat Color Codification (ACC) system: given wider currency through numerous courses, it has stimulated the use of color for interior and exterior decoration. The revised concept of the *Decorette®* center met with a positive reception.

Automotive paints

Shipments of *automotive paints* benefited from the high volumes of auto production in most Western European countries and in South America. Introduction of water-thinnable materials, which contain little or no organic solvent, proceeded satisfactorily. Interest in licenses for the manufacture of these patented products is considerable.

Product development in automotive paints is especially oriented toward innovations in the automotive industry itself. Such innovations are closely associated with the increasing stringency of demands concerning the automobile's life and environmental impact.

Auto refinishes

Overall, we were able to significantly strengthen our position internationally.

With the aid of so-called color centers the availability of *auto refinishes* was improved; the scale of cooperation with independent refinishers was broadened.

In Japan a joint venture, Toa Akzo Coatings K.K., was formed. Half of the new company is owned by two Japanese companies, Toa Paints Co. and Nippon Zeon Co. Sales activities commenced by the end of the year under review.

Other coatings

Our water-thinnable and low-solvent products are finding increasing acceptance for general industry uses and in steel coating systems.

In the field of *coil coatings*, the development and application of high-speed coatings based on silicone polyester resins has created significant new sales potential. We successfully introduced our products in several countries.

Blastcoat/Wetcoat is a proprietary system for the application of paint layers to metal structures under or just above the waterline. A unique feature of the system is our patented blast-spraying process whereby the first protective coat is applied. The performance in trial projects warrants hopes that it will be widely used on offshore installations.

Synthetic resins

In the field of resins, the sharp rise in raw material prices initially exercised an appreciable negative effect on margins. Shipments of *acrylate resins* for use in automotive coatings and in special printing inks and bonding agents developed favorably. Market interest in the first company-developed acrylate micro-emulsions is encouraging.

Following negotiation of licenses with Japanese manufacturers, U.S. industry is now also showing interest in our Recom 26X computer program, which permits rapid correlation of properties and structures of synthetic resins.

Research and development

Progress was made in many areas of research and development. Some specific items were:

- a broadening of the technological base in regard to *water-thinnable paints* and *industrial coatings* with zero or low organic solvents contents;
- *high-solids polyester topcoats* for the automotive industry;
- labor-saving pigmented systems for the *house and anticorrosion paints* sectors, and more durable *transparent systems* for wood;
- new *intermediates* and *resins* for paints and printing inks cured by means of radiation, and a new group of *melamine resins*.

A permanent focus of attention is energy conservation in our production facilities. Substantial economies have been achieved in the consumption of electricity and water.

The Acoat® selected *sign identifies a growing number of selected independent refinishers in Europe with whom Akzo Coatings has a cooperative arrangement.*
Akzo Coatings supplies them with paint products and systems and makes available a full range of services designed to improve the position of body shops.

Pharmaceuticals

in Hfl million	1979	1978	% change
sales	1,274	1,211	5
operating income	134	140	(4)
operating income, as percentage of sales	10.5	11.6	

This product group comprises:
ethical drugs, such as anabolics, oral contraceptives, corticosteroids, sex hormones, psychotropics, and preparations for the treatment of cardiovascular diseases and of gastrointestinal disorders; additionally, diagnostics and mechanical contraceptives;
hospital supplies, such as diagnostics, pharmaceutical specialties, medical equipment, and single-use products;
non-prescription drugs, such as vitamin preparations, pain killers, cough syrups, sweetening agents, and dietary products; furthermore, over-the-counter pregnancy tests;
raw materials for the pharmaceutical industry, such as steroids, biochemicals, alkaloids, and polypeptides;
veterinary products, such as poultry vaccines, other vaccines, and hormone preparations.

For the eighties Akzo Pharma strives to achieve a broader base to cover the surging development and introduction costs of pharmaceuticals.

To attain this goal, efforts will be targeted on:
- continuation of research focused on specific programs, and extension of technological expertise and facilities in new fields;
- acquisition of licenses for products developed by others, or acquisition of pharmaceutical companies whose proprietary know-how covers specialized product areas;
- strengthening of geographical market positions.

Thus, Akzo Pharma anticipates that it can adequately continue to make available new or improved products and services for human and animal health care.

Although sales and income of the pharmaceutical products group were at a satisfactory level, both slowed down compared with the previous year.

With the U.K. Fisons company, agreement was reached on the take-over in stages by Fisons Ltd of our agrochemical operations concentrated in AAgrunol. The first stage was realized on April 1, 1979, when the marketing and development functions were transferred. Transfer of the production facility depends on the time when a new manufacturing license will be granted under the Public Nuisance Act.

Ethical drugs

In the principal marketplace, Western Europe, volume growth of ethical drugs slowed down in 1979. This picture was also discernible for those market segments in which Organon has traditionally been operating. Outside of Europe, gains in sales and volumes were registered. In Iran a considerable drop in sales was recorded.

Internationalization of Organon's antidepressant *Tolvon®*, which was launched in 1975, is progressing smoothly. The same observation can be made for *Multiload Cu250®*, a contraceptive coil, which Organon introduced in international markets. *Andriol®*, an oral hormone preparation to supplement testosterone deficiencies, was put on the market in the year under review.

In the field of research and development the cooperation between the research centers in West Germany (Thiemann), France (R.E.T.I.) and the Netherlands is being further enhanced, in particular with regard to cardiovascular diseases. The aim is to further strengthen our position in this market, which we entered at the time through Thiemann.

Procedures were initiated to seek approval for health registration of a line of low-dosage specialties in the field of contraception, based on a newly developed progestational component. This new line of products is expected to bolster Organon's position in this field.

Regulatory activity of health authorities regarding registration of new drugs and screening of approved drugs that are currently being used involves increasingly higher costs and demands ever closer attention.

Hospital supplies

Sales of Organon Teknika continued to progress satisfactorily. Volume gains were only partially reflected in the sales increase due to vigorous price competition. Margins were squeezed across the board. An adequate response to this tendency, which had been foreseen for quite some time, should ultimately be provided by boosted research efforts. We are therefore gratified that again a number of new products were introduced. They include:
- *Estronosticon®* and *H.P.L.-Nosticon®*, diagnostics for the measurement of specific hormones on the basis of the proprietary enzyme immunoassay method (EIA);
- *Streptosec®*, an entirely new diagnostic for the grouping of streptococci;
- *Hepanostika® strip*, a hepatitis test, based on the above EIA principle, for use in small laboratories;
- a new, high-capacity artificial kidney, *Nephross® 11F100*, based on hollow fibers;
- *Echo<u>bio</u>Visor Fociscan*, high-resolution ultrasound equipment for diagnostic examinations in gynecology and obstetrics;
- *Echo<u>cardio</u>Visor® sector scanner*, an addition to the ultrasound line for use in cardiology.

The size of the sales organization was further increased. In the United States, ultrasound equipment was added to the line of dialysis products of Organon Teknika Corporation. At Turnhout (Belgium), the

Intervet produces veterinary vaccines and hormone preparations.

Being prepared here is a trial batch of a vaccine to give pigs immunity to a virus infection.

construction of the new international headquarters of Organon Teknika was completed. Concentration of the Antwerp and Oss operations at Turnhout was effected in early 1980. At Boxtel, construction of a new plant for artificial kidneys was started.

Non-prescription drugs

In this sector Chefaro's sales made satisfactory progress compared with 1978. The international position of the *Predictor*® pregnancy test was strengthened. Major factors in this regard were the introduction of the test in new markets, such as Australia, and an increase in market shares, mainly in Western European countries. Competitiveness in the field of over-the-counter pregnancy tests and the current interests of Chefaro provide a continuing impetus for product improvement and product innovation.

The importance Chefaro attaches to the market for common cold remedies was pointed up by the development of a new product *Cold Control*. In mid-1979 this product was launched in the United Kingdom.

Persistent criticism of self-medication affected business in the Netherlands and depressed sales of some Chefaro products. Nevertheless, Chefaro recorded in the Netherlands a sales gain for the year thanks to sales progress in other product sectors.

Raw materials for the pharmaceutical industry

The continued crumbling of market prices for the majority of Diosynth's products caused lower earnings. Large supplies of Indian opium put additional pressure on the *alkaloids* sector. Also, in light of the increasing number of countries with poppy cultures for narcotic drugs, the U.N. Commission on Narcotic Drugs recommended that production be curtailed. The effect on market developments cannot be estimated yet.

In the *biochemicals* sector the erosion of market prices for *heparin* came to a halt. The introduction of an improved process for the production of heparin should permit profitability to recover. Process improvements also resulted in *insulin* of a higher purity.

The *pharmaco-chemicals* sector again experienced lower market prices, except for *corticosteroids.* Massive supply of *steroids* resulted in very vigorous competition, with prices which are suggestive of dumping.

The plant for the production of *solasodine* (basic material for steroids) in New Zealand was inaugurated in the spring of 1979.

Veterinary products

Intervet again had a favorable year with substantially higher sales and earnings. Its leading position in poultry vaccines was further bolstered. In the field of estrus regulation the prostaglandin *Prosolvin*® (for cows, horses and hogs) was introduced in the Netherlands, while *Chronogest*® (for sheep) sold well, notably in France.

In addition, the existing line of products was supplemented with a number of company-developed vaccines with high growth potential.

Consumer products

in Hfl million	1979	1978	% change
sales	725	696	4
operating income	31	31	–
operating income, as percentage of sales	4.3	4.5	

This product group comprises:
detergents and cleaning products;
health and body-care products, such as fragrances and cosmetics;
foodstuffs, such as nuts, sauces, party snacks, oils and fats, soups, and various food specialties.

With its three groups of products Akzo Consumenten Produkten is operating in fiercely competitive markets of restricted international scope. A slowdown in consumption growth and structural changes in distribution patterns are some of the factors that will continue to increase the pressure of competition.

To cope with these developments Akzo Consumenten Produkten will follow a strategy focused on:

- product innovation or improvement, based in part on its own research activities;
- broadening of the geographical base through acquisitions or through cooperation with other companies in selective product areas;
- efforts to increase efficiency and reduce costs of production and marketing.

The strong market positions of various branded articles largely offset the adverse effects on earnings of fiercer competition and of price increases for raw materials and supplies.

Commercial featuring our new Zendium® *enzymatic toothpaste is seen regularly on Dutch television screens.*

Detergents and cleaning products

In the Netherlands the market for detergents came under heavy pressure due to substantial price increases for raw materials and packaging, and keen price competition among producers. The market share for most products was maintained only at the expense of major price concessions. *Dobbelman®* household detergent was adversely affected by this development. *Biotex®*, on the other hand, did well in the top segment of the market. In Belgium our earnings were appreciably lower, whereas in Denmark and Norway our products continued their healthy development.

In 1979, the base of operations of the Otarès group (cleaning systems) was further strengthened. The acquisition of Sorma France, combined with our interests in the Netherlands and Belgium, resulted in a firmer geographical base for our institutional cleaning operations. The acquisition of a company in Norway is aimed to round out our operations in Scandinavia.

Health and body-care products

Recter had another strong performance in 1979. The introduction on the Dutch market of *Zendium®* toothpaste, a breakthrough in the field of dental care and oral hygiene, was very successful. The use of enzymes in toothpaste is a novelty and it received wide publicity. A strong position was quickly realized by way of two distribution channels, and we are now well placed for the introduction of *Zendium®* in other Western European countries.

The market position of *Zwitsal®* was further expanded. *Roosvicee®* did well in a vulnerable market segment. Boldoot needs more time to realize the announced innovation of its line of products, which should improve its earnings base.

Further internationalization in this sector is being sought.

Foodstuffs

Although the profitability of Duyvis improved in the year under review, margins in the nuts and party snacks market remained under heavy pressure. Further improvement will have to be realized through rationalization of production and sales increases, in particular through introduction of new products.

The position of dry and canned *California®* soups remains difficult. Still, results were better than expected. Our operations at Harderwijk were strengthened because production activities were taken over from the Assen plant after it was shut down.

In addition to its activities on the consumer market, California Belgium has built up a strong position in the Belgian catering market in recent years. Earnings were on a satisfactory level in the year under review.

Mayolande in France enjoyed a good year, in spite of the fact that in France, too, competition is becoming more vigorous.

In the market sector of oils and fats the concentration and rationalization of operations at Vlaardingen had a favorable effect on ROMI's earnings. In a market which is traditionally highly susceptible to price fluctuations, the company's position was strengthened substantially.

Research and development

The Dutch government has drawn up guidelines for the replacement of phosphate in detergents, which should result in the general adoption of phosphate-free detergents. Although the industry still has its doubts as to the feasibility of total replacement, which is scheduled to be completed by 1985, we are giving this matter top priority.

As far as the other product categories are concerned, we continue our endeavors to bolster our market positions through improvement of our existing line of products and introduction of new products. Our inspiration in these endeavors is the success of *Zendium®*.

Miscellaneous products

in Hfl million	1979	1978	% change
sales	1,595	1,349	18
operating income	132	107	23
operating income, as percentage of sales	8.3	7.9	

Enka
Machinery and equipment for the man-made fiber and plastics industries, hydraulic equipment, special pumps and assemblies for the automotive industry (Barmag); dialysis membranes for medical and other uses; plastics, films (Akzo Plastics); cellulose-based industrial colloids; non-wovens, shammies, and sponges (Colbond).
Akzona
Wire, cable and electronic/electrical devices (Brand-Rex); leather (Armira).

Enka's non-fiber products mainly include products that have been developed on the basis of in-house expertise. The strategy is for rapid utilization of innovation opportunities to ensure continuation of the present growth rate, which is comparatively favorable.

Akzona strives to expand the technology base of Brand-Rex to promote further penetration into the promising electronics market.

The gains in sales and operating income mainly stemmed from the substantially improved performance of plastics and the healthy growth of wire, cable and electronic/electrical devices.

Enka

Barmag Barmer Maschinenfabrik experienced major sales and earnings improvements.

In the *man-made fiber industry*, the principal customer category, capital investments are increasingly being directed toward modernization and automation. With its technologically advanced spinning and texturing machines Barmag was able to meet customer demands, thus strengthening its worldwide leading position in this field.

Barmag developed equipment for the production of five-layer blown film and two-layer flat film for thermoforming (deep drawing), in which the *plastic industry* is highly interested.

In 1979, sizable volume gains were realized in assemblies for the *automotive industry*, especially vacuum pumps for servo-assisted braking systems. Hydraulic equipment is supplied to the *elevator industry*, while sales opportunities are emerging for hydraulic valves, notably in the *transport equipment industry*.

The performance of Enka's *dialysis membranes* remained satisfactory, although earnings were somewhat lower than in 1978. *Cuprophan® hollow fibers* experienced fiercer competition. Also, the more efficient use of basic materials by producers of dialysis equipment resulted in reduced volume growth for our hollow fibers. These developments halted for the present the sizable additions to capacity that were regularly made in previous years.

The fluid-bed electrolysis process developed by Akzo Zout Chemie found application in environmental control.

Our efforts will remain focused on the development of new membrane types and on expansion of applications other than kidney dialysis.

Akzo Plastics enjoyed substantial gains in sales and earnings for its *engineering plastics*, where selling price increases more than offset the increased level of raw material prices. Sales of *spinning granules* trailed last year's level; income was reduced because higher raw material prices could not be fully passed on.

In the field of *thermoplastic elastomers* (*Arnitel®*) we expect to realize substantial volume growth, aided by the addition of new grades to our existing product lines. Combining properties of plastics and rubber, this interesting material has found such diverse applications as high pressure hose, cable sheathing, V-belts, sports shoe soles, and soccer balls.

Volume growth was slower than expected for *Arnite® thermoplastic polyester bottles*, which are manufactured and sold by the joint venture Strongpac Enka – PLM. Therefore, the decision to expand production capacity was not taken until the end of the year.

Industrial colloids clearly benefited from the higher demands on drilling mud additives, which the petroleum industry led in making. Our geographical sales base was substantially broadened. Our *Peridur®* ore pelletizer is being increasingly used. The development and introduction of a high absorbency product for sanitary applications offers favorable prospects. Work on the modernization of the Arnhem plant was started.

In 1979, the Colbond product group felt the impact of a sluggish carpet market which depressed sales of *Colback®* backing for tufted carpet, while sales of non-wovens for civil engineering purposes were hurt by the severe winter weather. Spunbonded materials for various industrial applications are experiencing a growing international market response.

Akzona

With the acquisition of the companies General Circuits, Inc. and Garry Manufacturing Co., Brand-Rex made substantial progress in the expansion of its line of products for the electronic industry.

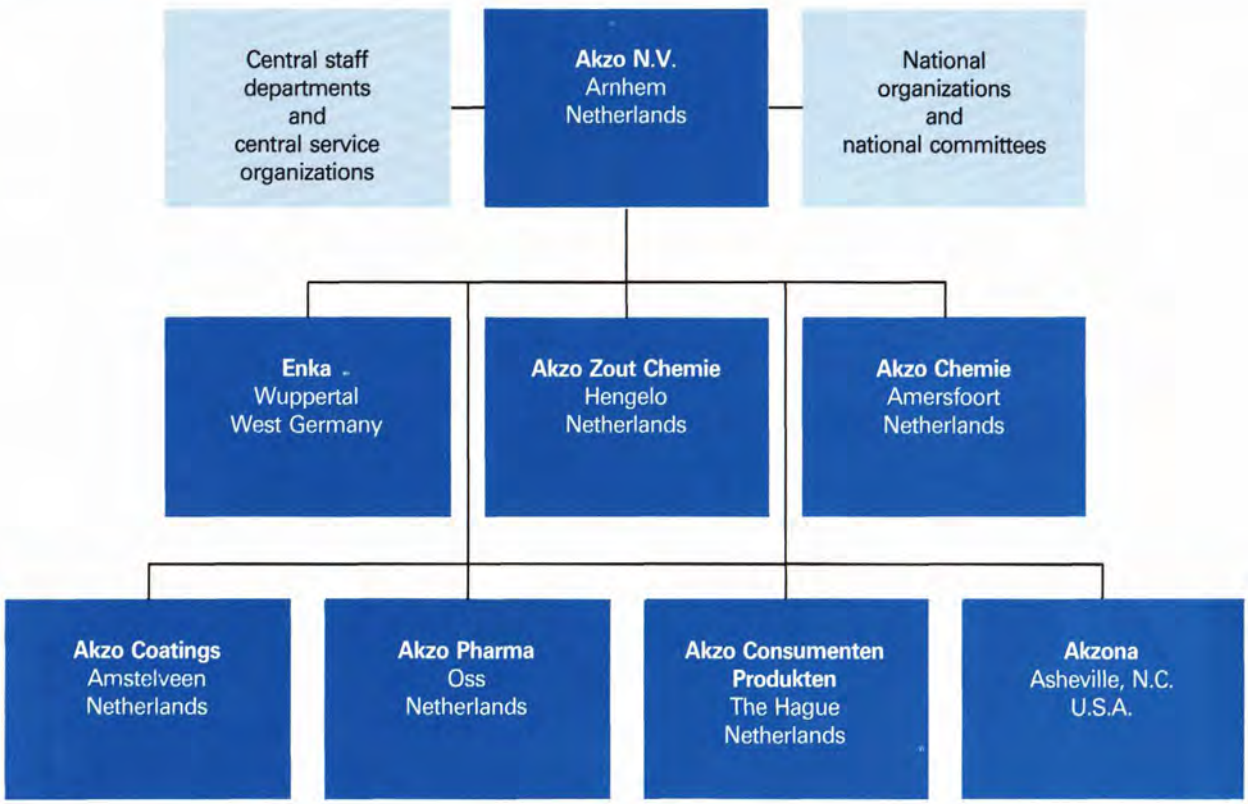
Nearly all product groups, including Brand-Rex Ltd (Scotland), contributed to the sizable gains in sales and operating income.

Armira, Akzona's *leather* division, operated in a difficult market, which was characterized by a very high price level for hides over a prolonged period. Despite a decline in volume sales, Armira's earnings were higher, although still unsatisfactory.

Arnhem, March 27, 1980

The board of management

Organization



Akzo N.V. is the Group's *holding company* with direct and indirect interests in a number of companies. Together they constitute the Akzo Group.

The business activities of the Akzo Group are organized in product-oriented *divisions*. Each division combines all activities relating to the development, manufacture and sale of a number of similar products. The six divisions operate internationally and with a high degree of autonomy. In North America, Akzo's interests are incorporated in a seventh organizational entity, Akzona, which is 66% owned by Akzo N.V.

The board of management of Akzo N.V. is assisted in its management function by *central staff departments* located in Arnhem.

In addition, there are *central service organizations* working for the Group and in some specific cases also for third parties. They include:
Corporate Research, Arnhem/Obernburg
Akzo Engineering, Arnhem
Akzo Data Processing Facilities, Arnhem
Akzo Systems (consultancy on information systems), Arnhem
Rijnconsult (organization consultancy), Arnhem.

In some countries national organizations exist which have a coordinating function and render services to local Akzo companies.

In the Netherlands, Belgium, Brazil, and Japan the *national organizations* are incorporated. In West Germany, France, Italy and the United Kingdom, the mainly coordinating tasks are performed by *national committees.*

Management

March, 1980

Board of management of Akzo N.V.

The board of management is the highest executive body in the Akzo Group.

The executive committee is a part of the board of management and is composed of the president and the two deputy presidents, viz. A.G. van den Bos, A.A. Loudon and J.A. Wolhoff.

It is the business of the executive committee to set the course of the Group as a whole and to direct its operations. This does not entail direct operational or functional tasks and responsibilities, though there does exist a division of work among the members, which is also based on geographical policy aspects.

After joining the executive committee in 1978, A.A. Loudon retained responsibility for social policy, public affairs, organization, and pension affairs.

Two members of the board of management are responsible for the following functional areas:

M.W. Geerlings	research and development, technology, engineering, safety and environmental affairs, patents
H.J. Kruisinga	financial, accounting, legal and fiscal policies, automation affairs, internal auditing, insurance

The following board members are in charge of the operational units of the Group:

H. van Doodewaerd	Akzo Consumenten Produkten
A. van Driel	Akzo Coatings
J. Veldman	Akzo Pharma
H.J.J. van der Werf	Akzo Zout Chemie
M.D. Westermann	Akzo Chemie
H.G. Zempelin	Enka

Secretary to the board of management and to the supervisory council is J.P. Huges.

Acting as adviser to the board of management is W.K.N. Schmelzer, specifically in relation to international affairs and issues of a general social nature.

Central staff departments

Officers

M.W. Arts	internal auditing
S. Bergsma	financial affairs
Mrs. M.A. van Damme-van Weele	chemical development
A.M. van Haastrecht	organization
C. Hoek	legal affairs
H.S. Jongepier	safety and environmental affairs
J.H. Katgert	accounting and management information
J.K.G. Meijnen	insurance affairs
H.W. Muzerie	group development
O.H. Nijman	fiscal affairs
R.J. Ovezall	corporate personnel affairs and public affairs
P.J.S.Th. Stehouwer	research and development
T.M. Tieleman	economic affairs and planning
A.W. Zijlker	computer affairs

Other staff officers

B. Klaverstijn	information
E.W. Meier	international relations

Akzo Engineering

J.R. Eppenga

Managements of divisions

Enka

H.G. Zempelin	president
J.R. Hutter	deputy president
H. Stöhr	
G. Tückmantel	
J. Verhaar	
A. Bendziula	
D. Sorgdrager	

A distinct unit of Enka is
Enka International

S. Minnema	president
G.G. Cerutti	
R. van Wingerde	

Akzo Zout Chemie

H.J.J. van der Werf	president
F.A.G. Collot d'Escury	
J.H. Dijkema	

Akzo Chemie

M.D. Westermann	president
J.C.P. van Oosterom	
H.C. Bijvank	
M.E. Hartman	
P.W. Pfeiffer	
H.A. Praetorius	
E. Snoeck	

Akzo Coatings

A. van Driel	president
K. Bakker	
J.W. Berghuis	
R. de Bonneval	
W.L.W. Ludekens	
K.G. Schultze	
C. Zaal	

Akzo Pharma

J. Veldman	president
J.H.H. Florax	
C.P. Spoel	
B.H.M. van Dommelen	
W. Smit	
F.L. Vekemans	
A.G. Vermeeren	

Akzo Consumenten Produkten

H. van Doodewaerd	president
W.P. Boerma	
M.A. Hoolboom	
P.B. van Hulst	
H.B. Jacobs	
A.M. van der Linden	
J.E.H. Sikkink	

Managements of national organizations

Akzo Nederland

Management

W.J. Wolff	president
J.H. Dijkema (pro tem.)	
P. Hollander	
D.B. Kagenaar	
A.M. van der Linden	
D. Sorgdrager	
C.P. Spoel	

Staff department personnel affairs
G. Tellegen

Akzo België

F.C.L. De Deken	president

Akzo Indústria e Comércio, Brazil

J.M. Hessels	president

Mercator Internationaal, Japan

T.A. Townsend	managing director

Principles of consolidation

The consolidated financial statements include Akzo N.V. and all companies in which Akzo N.V. or any of its majority subsidiaries has an interest, directly or indirectly, of more than 50% of the outstanding voting stock. 100% of the assets, the liabilities and the results of the consolidated companies are included. Minority interest in Group equity and Group income (loss) is shown separately.
The principal affiliated companies are listed on page 63 and following. A list of names and registered offices of affiliates, drawn up in conformity with article 2:320, paragraph 2, and using paragraph 3, subpara a, of the Dutch Civil Code, has been filed at the Trade Registry of Arnhem.

Principles of valuation and determination of income

The valuation principles for property, plant and equipment, investments in non-consolidated companies, other non-current assets, inventories, securities included in cash and marketable securities, and provisions are stated separately in the notes to the consolidated balance sheet.
Receivables, cash and liabilities are stated at face amounts, less such provisions for receivables as are deemed necessary. The parts of long-term receivables and long-term debt becoming due within one year are included under short-term receivables and other current liabilities, respectively.
Discount on borrowings is included under prepaid expenses and is charged against income over the period elapsing until maturity of the borrowings.
Preparation and start-up expenses of large investment projects are capitalized and charged against income, in not more than five equal annual installments, after the facilities concerned have been put into service.
Other intangible assets, which include exploitation rights, are not capitalized; they are charged against operating income.
Purchased goodwill is charged directly against Group equity.

In the consolidated balance sheet, amounts in foreign currencies have been translated into guilders at rates virtually equal to the rates of exchange in force at year's end. The valuation in guilders of the U.S. dollar convertible debentures is based, however, on a rate of U.S. $ 1 = Hfl 3.60, except for the portion due within one year. In the consolidated statement of income, foreign currencies have been 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, at changed exchange rates, of stockholders' equities of affiliated companies outside the Netherlands; the latter differences are directly added to, or deducted from, Group equity.
The principal exchange rates used in drawing up the balance sheet and statement of income are:

		balance sheet		statement of income	
	unit	Dec. 31, 1979	Dec. 31, 1978	1979*	1978*
U.S. dollar	1	1.91	1.97	2.00	2.16
Deutsche mark	1	1.10	1.08	1.10	1.08
Pound sterling	1	4.23	3.99	4.25	4.15
French franc	1	0.47	0.47	0.47	0.48
Swiss franc	1	1.18	1.22	1.21	1.22
Spanish peseta	100	2.88	2.82	3.00	2.82
Braz. cruzeiro	100	4.50	9.65	7.64	11.80

* average exchange rates

Effect of price rises on Group equity and income

The principles of valuation and determination of income used in the consolidated financial statements shown on pages 42 through 51 are based on historical cost. The effect of price rises on Group equity and income is shown on pages 52 and 53.

Net income (loss) per share of common stock

Net income per share of common stock is calculated by dividing net income (less the part thereof distributed in the form of dividends on priority and cumulative preferred stock and the bonuses to the members of the supervisory council) by the number of shares of common stock outstanding at December 31.
Net loss per share of common stock is calculated by dividing net loss by the number of shares of common stock outstanding at December 31.

Consolidated balance sheet of the Akzo Group

after allocation of profit

see notes on pages 45 through 49

in Hfl million	December 31, 1979		December 31, 1978	
non-current assets				
property, plant and equipment	3,272.8		3,360.0	
investments in non-consolidated companies	297.4		337.8	
other non-current assets	144.0		152.3	
		3,714.2		3,850.1
current assets				
inventories	2,233.3		1,901.7	
short-term receivables	2,231.4		1,992.4	
prepaid expenses	45.8		48.3	
cash and marketable securities	804.7		597.6	
		5,315.2		4,540.0
total assets		9,029.4		8,390.1
Group equity				
Akzo N.V. stockholders' equity	2,325.3		2,230.7	
minority interest in Group equity	408.1		397.1	
		2,733.4		2,627.8
long-term liabilities				
provisions	1,146.8		1,054.0	
long-term debt	2,599.8		2,276.1	
		3,746.6		3,330.1
current liabilities				
bank borrowings and overdrafts	453.3		386.5	
other current liabilities	2,096.1		2,045.7	
		2,549.4		2,432.2
total Group equity and liabilities		9,029.4		8,390.1

Consolidated statement of income of the Akzo Group

see notes on pages 49 and 50

in Hfl million		1979		1978
sales		12,014.7		10,665.9
operating costs				
salaries, wages and social charges	(3,571.7)		(3,394.6)	
depreciation	(505.5)		(486.2)	
other costs	(7,248.4)		(6,363.8)	
		(11,325.6)		(10,244.6)
operating income		689.1		421.3
interest		(258.8)		(248.5)
operating income less interest		430.3		172.8
taxes on operating income less interest		(136.8)		(112.9)
		293.5		59.9
equity in earnings of non-consolidated companies		32.2		27.8
Group income before extraordinary items		325.7		87.7
extraordinary items		(59.8)		(25.2)
Group income		265.9		62.5
of which minority interest		(36.2)		(38.2)
Akzo N.V. net income		229.7		24.3
net income before extraordinary items		289.2		49.2
extraordinary items	(59.8)		(25.2)	
of which minority interest	0.3		0.3	
		(59.5)		(24.9)
Akzo N.V. net income		229.7		24.3
net income before extraordinary items, per common share of Hfl 20 par value, in Hfl		9.75		1.66
net income per common share of Hfl 20 par value, in Hfl		7.74		0.82

Consolidated statement of changes in financial position of the Akzo Group

see notes on page 51

in Hfl million		1979		1978*
working capital (excess of current assets over current liabilities) at January 1		2,108		2,228
source of funds				
Group income before extraordinary items		326		88
depreciation and disposals	550		528	
other non-cash items	111		73	
		661		601
		987		689
extraordinary items affecting funds		(11)		(30)
funds from operations		976		659
disposal of participations	11		32	
working capital of consolidated companies disposed of	(9)		(16)	
		2		16
borrowings		538		390
issuance of stock by Group companies		1		3
		1,517		1,068
application of funds				
expenditures for property, plant and equipment		461		434
acquisitions	120		93	
working capital of new consolidated companies	(44)		(3)	
		76		90
other non-current assets		(8)		4
		529		528
repayment of borrowings		202		557
dividends paid to:				
stockholders of Akzo N.V.	71		–	
minority stockholders of Group companies	16		12	
		87		12
other		41		91
		859		1,188
working capital at December 31		2,766		2,108

* restated for comparison

Notes to the consolidated financial statements of the Akzo Group

General

Changes in consolidated companies

The 1979 consolidated figures include the U.S. companies General Circuits, Inc. and Garry Manufacturing Co. purchased in 1979 by Akzona Inc., and Ivanow S.A., Spain (Akzo Coatings) in which we acquired a majority ownership.
There were no other material changes.

Consolidated balance sheet

Property, plant and equipment

Land is stated at cost with a revaluation, however, at January 1, 1969, of approximately Hfl 70 million for land acquired long ago. Other property, plant and equipment are stated at cost, less depreciation. Government subsidies, etc. are deducted from cost of acquisition.
Depreciation is calculated by the straight-line method based on estimated life, which in the majority of cases is 10 years for plant equipment and machinery and ranges from 20 to 30 years for buildings. In cases where the book value calculated in this way exceeded the value to the business, additional write-offs were made.
Furthermore, a provision of Hfl 108.2 million was deducted from the book value to cover additional write-downs, especially in the man-made fiber sector.

The table below shows the changes in 1979.

in Hfl million	total	land	buildings	plant equipment and machinery	means of transport	assets not used in the production process
situation at December 31, 1978						
cost of acquisition	9,409.1	201.4	1,914.7	6,947.0	103.8	242.2
depreciation	(5,962.9)		(909.5)	(4,796.9)	(73.2)	(183.3)
book value	3,446.2	201.4	1,005.2	2,150.1	30.6	58.9
provision for additional write-downs*	(86.2)					
	3,360.0**					
changes in book value						
changes in consolidated companies	58.2	0.5	11.4	45.9	0.4	
capital expenditures	461.2	2.1	86.4	357.9	11.8	3.0
depreciation	(505.5)		(64.2)	(425.7)	(10.8)	(4.8)
disposals	(44.1)	(4.6)	(9.0)	(20.5)	(2.5)	(7.5)
additional write-downs	(9.6)			(9.6)		
changes in exchange rates	(57.0)	(2.6)	(24.8)	(28.6)	(0.9)	(0.1)
other	31.6	3.2	12.4	12.9	0.6	2.5
total changes in 1979	(65.2)	(1.4)	12.2	(67.7)	(1.4)	(6.9)
situation at December 31, 1979						
cost of acquisition	9,644.0	200.0	1,953.6	7,156.5	103.0	230.9
depreciation	(6,263.0)		(936.2)	(5,074.1)	(73.8)	(178.9)
book value	3,381.0	200.0	1,017.4	2,082.4	29.2	52.0
provision for additional write-downs*	(108.2)					
	3,272.8**					

Projects under construction included in cost of acquisition and book value totaled Hfl 231.9 million at December 31, 1979 (at December 31, 1978: Hfl 247.6 million).

Purchase commitments (not included in the consolidated balance sheet) totaled Hfl 194.1 million at December 31, 1979 (at December 31, 1978: Hfl 115.1 million).

* in 1979, an amount of Hfl 10 million was used for additional write-downs, while an amount of Hfl 32 million was added to this provision

** including capitalized preparation and start-up expenses of Hfl 1.3 million at December 31, 1978 and Hfl 2.6 million at December 31, 1979

46 **Investments in non-consolidated companies**

This item includes the non-consolidated companies and the loans to these companies. Investments in non-consolidated companies are stated at the amount of Akzo's share in stockholders' equity, less provisions in the amount of Hfl 7 million (December 31, 1978: Hfl 12 million).
The calculation of stockholders' equity has been based as much as possible on the Akzo principles of valuation.
Loans to non-consolidated companies totaled Hfl 12.8 million (at December 31, 1978: Hfl 28.5 million).

in Hfl million	
situation at December 31, 1978	337.8
investments	13.9
equity in 1979 earnings	32.6
dividends received	(44.0)
changes in exchange rates	(29.5)
other changes	(13.4)
situation at December 31, 1979	297.4

Other non-current assets

This item includes mainly long-term receivables, less Hfl 25.5 million for discounted receivables (at December 31, 1978: Hfl 36.8 million), and other assets that are not directly realizable. The latter are stated at cost or estimated value, whichever was lower.

Inventories

Inventories are stated at the lower of cost or net realizable value. Cost is defined as full cost exclusive of interest, research expenditure and general administrative expense, taking into account the stage of processing. The cost of inventories has been accounted for using the FIFO formula. Provisions have been made for obsolescence and other risks.
In the valuation of inventories, profits arising as a result of transactions between consolidated companies have been eliminated.

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
raw materials and supplies	713.2	614.3
work in process	573.5	482.0
finished goods	946.6	805.4
	2,233.3	1,901.7

Short-term receivables

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
trade receivables	2,081.9	1,888.1
receivables from non-consolidated companies	68.7	60.2
other receivables	375.1	346.8
	2,525.7	2,295.1
of which discounted	294.3	302.7
	2,231.4	1,992.4

Prepaid expenses

This item includes Hfl 7 million in respect of discount on borrowings (at December 31, 1978: Hfl 7 million).

Cash and marketable securities

With few exceptions, securities included in this item are listed on stock exchanges. They are stated at cost or market value, whichever was lower.
The securities include 82,146 shares of Akzo N.V. common stock, which are stated at market value at December 31, 1979.

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
securities	75.8	61.1
short-term investments	588.1	378.1
cash on hand and in banks	140.8	158.4
	804.7	597.6

The total amount of medium-term credit facilities arranged by Akzo but not yet utilized was approximately Hfl 650 million at December 31, 1979 (at December 31, 1978: approximately Hfl 850 million).

Group equity

in Hfl million	capital stock	capital surplus, paid in	other reserves	stock-holders' equity	minority interest	Group equity
situation at December 31, 1978	592.7	658.0	980.0	2,230.7	397.1	2,627.8
issuance of stock of Group companies to third parties					1.0	1.0
goodwill resulting from acquisition of companies			(5.9)	(5.9)	(1.8)	(7.7)
purchase of cumulative preferred stock	(0.1)			(0.1)		(0.1)
retained 1979 earnings*			158.3	158.3	20.1	178.4
changes in exchange rates			(98.5)	(98.5)	(19.6)	(118.1)
other changes			40.8	40.8	11.3	52.1
situation at December 31, 1979	592.6	658.0	1,074.7	2,325.3	408.1	2,733.4

* including reservation pursuant to art. 38, para 2, of the articles of association

At least Hfl 210 million of the capital surplus, paid in (at December 31, 1978: Hfl 210 million) can be considered free from income tax within the meaning of the Dutch 1964 Income Tax Law (Wet op de Inkomstenbelasting 1964).

Provisions

This item comprises provisions which do not refer to specific assets.

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
deferred taxes	367.6	355.4
pension rights	382.1	335.3
other provisions	397.1	363.3
	1,146.8	1,054.0

The current portions of provisions in respect of pension rights and other provisions amount to approximately Hfl 100 million (at December 31, 1978: approximately Hfl 60 million).

in Hfl million	
situation at December 31, 1978	1,054.0
changes in consolidated companies	1.7
changes in exchange rates	1.9
additions less amounts used	100.2
other changes	(11.0)
situation at December 31, 1979	1,146.8

Provisions for deferred taxes

This item comprises the tax liabilities, less the part expected to be settled in 1980. These liabilities have not been discounted to present value.
See also the note to taxes on income (page 50).

Provisions in respect of pension rights

With due observance of the statutory regulations and customs in the countries concerned, most Group companies have arranged appropriate pension plans for their employees. The ensuing liabilities and the required contributions and admission fees are generally computed on an actuarial basis. The item salaries, wages and social charges in the consolidated statement of income comprises Hfl 310 million (1978: Hfl 300 million) for pension expense.
The present value of the pension benefits is largely covered by:
- provisions, in the aggregate amount of Hfl 382 million, made by Group companies in their balance sheets;
- the funds accumulated in independent pension funds through payment of contributions.

The present value of the pension benefits not yet covered is approximately Hfl 140 million (at December 31, 1978: approximately Hfl 200 million).

Other provisions

This item includes provisions for liabilities whose extent cannot be ascertained with accuracy, and provisions for various operating risks. The amounts of the provisions are fixed in relation to the liabilities and risks concerned.
The principal provisions are for rationalization of activities and total Hfl 166 million (at December 31, 1978: Hfl 156 million). In 1979, Hfl 21 million was used, while Hfl 31 million was added. The provisions also include amounts for liabilities in respect of guarantees, self-insurance, maintenance, and litigation.

48 **Long-term debt**

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
convertible debentures	241.1	252.0
other debentures	560.3	441.1
installment buying and leasing arrangements	42.7	48.5
private borrowings and other long-term debts	1,997.9	1,903.9
	2,842.0	2,645.5
current portion of long-term debt	242.2	369.4
	2,599.8	2,276.1

in Hfl million	
situation at December 31, 1978	2,276.1
changes in consolidated companies	(1.8)
changes in exchange rates	(20.7)
borrowings	537.9
repayment of borrowings	(202.1)
other changes	10.4
situation at December 31, 1979	2,599.8

The breakdown by country is shown in the following table.

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
the Netherlands	1,626.2	1,422.8
West Germany	270.2	217.6
United States	441.2	387.1
other countries	262.2	248.6
	2,599.8	2,276.1

Aggregate maturities after 1980 are as follows:

during the years 1981 through 1985	Hfl 1,807 million
during the years 1986 through 1990	Hfl 613 million
after 1990	Hfl 180 million
	Hfl 2,600 million

The average interest rate is 8.9% (1978: 8.2%).
Private borrowings and other long-term debts have been secured to an aggregate amount of Hfl 383 million (at December 31, 1978: Hfl 357 million) by means of mortgages, etc.
Loan agreements of Akzona Inc. in the aggregate amount of Hfl 370 million (at December 31, 1978: Hfl 316 million) contain covenants which restrict the amount of secured debt the company may incur.

Convertible debentures *in Hfl million*

U.S. $ 70 million principal amount of 4¾% debentures Akzo N.V. 1969 convertible into Akzo N.V. common stock. These debentures mature not later than 1989.
The conversion price is Hfl 127.10 per share of Hfl 20 par value, based on an exchange rate of U.S. $ 1 = Hfl 3.60. The valuation of these debentures in guilders is based on the same exchange rate, except for the portion due within one year.
Repayment at par occurs in 10 equal annual installments, which will become due in the years 1980 through 1989. Full or partial repayment before maturity is permitted.
This borrowing includes the debentures held available for exchange of the remaining 4¾% convertible debentures Zout-Organon B.V. of U.S. $ 1,000 each; 32 of these debentures have not been exchanged. 241.1

Other debentures *in Hfl million*

Currently outstanding principal amount of 4½% debentures Akzo N.V. 1962. These debentures are payable in 13 equal annual installments, the first of which became due on July 1, 1968.
Redemption before maturity is permitted. 1.4

Currently outstanding principal amount of 11¼% debentures Akzo N.V. 1974. These debentures are payable in 10 approximately equal annual installments, the first of which became due on November 1, 1975.
Redemption before maturity is not permitted. 37.5

Sfr 60 million principal amount of 7¾% debentures Akzo N.V. 1975. Subject to certain conditions, these debentures will be repaid in 6 annual installments of Sfr 2 million each in the years 1980 through 1985 and in 4 annual installments of Sfr 4 million each in the years 1986 through 1989. The remaining principal amount will be payable at May 9, 1990.
Redemption before maturity is permitted as from May 9, 1981. 70.8

Hfl 125 million principal amount of 9¼% debentures Akzo N.V. 1976. These debentures are payable in 5 approximately equal annual installments, the first of which will become due on July 15, 1982.
Redemption before maturity is not permitted. 125.0

to be carried forward 234.7

carried forward	234.7
Hfl 125 million principal amount of 9½% debentures Akzo N.V. 1979. These debentures will be repaid in 4 approximately equal annual installments in the years 1983 through 1986. Redemption before maturity is not permitted.	125.0
Lfrs 500 million principal amount of 9¼% debentures Akzo N.V. 1979/1987. These debentures will be repaid in 6 annual installments of Lfrs 30 million each in the years 1981 through 1986. The remaining principal amount will be payable at October 25, 1987. Redemption before maturity is permitted as from October 25, 1983.	33.9
Profit-sharing employee debentures Akzo N.V.	2.2
Total other debentures Akzo N.V.	395.8
Currently outstanding principal amount of 6% debentures Koninklijke Zout-Ketjen 1965. These debentures are payable in 10 equal annual installments, the first of which became due on December 1, 1971. Redemption before maturity was permitted through 1979.	5.0
Currently outstanding principal amount of 4½% debentures Akzo Pharma B.V. 1961. These debentures are payable in 15 annual installments of Hfl 1 million each, in the years 1967 through 1981. Redemption before maturity is permitted.	2.0
Other debentures issued by consolidated companies	157.5
	560.3

Other current liabilities

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
suppliers	905.0	780.8
non-consolidated companies	38.2	30.8
taxes on income*	61.9	51.2
Akzo N.V. final dividend	41.3	–
current portion of long-term debt	242.2	369.4
pensions	1.9	2.8
other liabilities and accrued charges	805.6	810.7
	2,096.1	2,045.7

* less tax receivables of Hfl 21 million (at December 31, 1978: Hfl 12 million)

Liabilities not shown in the balance sheet

With regard to non-consolidated companies and third parties, guarantees were given and liabilities contracted to an aggregate amount of Hfl 270 million (at December 31, 1978: Hfl 337 million), of which Hfl 100 million (at December 31, 1978: Hfl 162 million) direct by Akzo N.V.
In respect of leasehold, rent, etc., liabilities have been contracted for a number of years to an amount of approximately Hfl 54 million (at December 31, 1978: approximately Hfl 53 million) per year.

Consolidated statement of income

Sales

This item includes the total of amounts invoiced to third parties in respect of goods supplied and services rendered, less sales taxes and excise duties. There are practically no differences in timing of invoicing and delivery.

in Hfl million	1979	1978
man-made fibers	3,852	3,567
chemical products	3,481	2,916
coatings	1,221	1,049
pharmaceuticals	1,274	1,211
consumer products	725	696
miscellaneous products	1,595	1,349
	12,148	10,788
intra-Group deliveries	(133)	(122)
	12,015	10,666

Depreciation

in Hfl million	1979	1978
buildings	64.2	63.8
plant equipment and machinery	425.7	404.3
means of transport	10.8	11.0
assets not used in the production process	4.8	7.1
	505.5	486.2

For the method of calculation of depreciation, see page 45.

50 **Operating income**

in Hfl million	1979	1978
man-made fibers	74	10
chemical products	253	122
coatings	98	64
pharmaceuticals	134	140
consumer products	31	31
miscellaneous products	132	107
	722	474
non-allocated costs	(33)	(53)
	689	421

Interest

in Hfl million	1979	1978
interest paid	(350.4)	(294.0)
interest received, including income from securities, etc.	91.6	45.5
	(258.8)	(248.5)

Taxes on income

The taxes on earnings included in this item comprise current and deferred tax liabilities. From the losses incurred, taxes have been deducted to the extent that they can be offset against taxes charged to income in previous years. No tax deductions are made from earnings to the extent that these earnings can be offset against losses suffered in previous years.
Therefore, a portion of earnings is not included in taxable income. Thus, on balance, no tax deductions had to be made in 1979 for earnings aggregating approximately Hfl 80 million, while no tax deductions were possible in 1978 in respect of a loss of approximately Hfl 100 million.
Losses not yet compensated amounted to approximately Hfl 820 million at December 31, 1979 (at December 31, 1978: approximately Hfl 900 million); within the compensation periods provided by law, earnings to be achieved in the coming years can therefore be included up to this amount in the statement of income without tax deductions.

The taxes included in the statement of income break down as follows:

in Hfl million	1979	1978
taxes on operating income less interest	(136.8)	(112.9)
taxes on equity in earnings of non-consolidated companies	(18.3)	(15.6)
taxes included in extraordinary items	4.3	(0.7)
	(150.8)	(129.2)

Equity in earnings of non-consolidated companies

Under this heading are included the Group's equity in earnings of non-consolidated companies and interest received on loans granted to these companies, taking into account taxes on these items.

Extraordinary items

This item comprises important but isolated gains and losses not relating to normal operations; the taxes concerned have been taken into account.

in Hfl million	1979	1978
extraordinary gains	6.0	11.3
extraordinary losses	(65.8)	(36.5)
	(59.8)	(25.2)

Extraordinary losses in 1979 mainly relate to additions to the provisions for rationalization of activities and to additional write-downs of property, plant and equipment, notably in the man-made fiber segment.

Consolidated statement of changes in financial position

Working capital

in Hfl million	Dec. 31, 1979	Dec. 31, 1978
inventories	2,233	1,902
short-term receivables	2,231	1,992
prepaid expenses	46	48
cash and marketable securities	805	598
bank borrowings and overdrafts	(453)	(386)
other current liabilities	(2,096)	(2,046)
	2,766	2,108

Other non-cash items

in Hfl million	1979	1978
changes in provisions	90	55
retained earnings of non-consolidated companies	11	(9)
other changes	10	27
	111	73

Extraordinary items affecting funds

in Hfl million	1979	1978
extraordinary items	(60)	(25)
addition to provision for additional write-downs	32	12
changes in provisions for rationalization of activities	10	(17)
other changes	7	–
	(11)	(30)

Acquisitions

in Hfl million	1979	1978
investments in non-consolidated companies	14	51
acquisition of consolidated companies	106	42
	120	93

In 1979, the stock of the U.S. companies General Circuits, Inc. and Garry Manufacturing Co. was acquired, and our interest in Ivanow S.A. (Spain) was increased.

Other applications of funds

This item includes the effect on working capital of valuation differences arising from translation into guilders of the 1979 and 1978 balance sheet amounts of foreign companies at the rates of exchange in force at December 31 of the years concerned.

Effect of price rises on Group equity and income

52 Because of continued inflation in virtually all countries, the current value of property, plant and equipment and of investments in non-consolidated companies, included in non-current assets, is higher than is shown in the consolidated balance sheet. Hence, Group equity is correspondingly higher.
Operating income and net income are lower if operating costs are determined in relation to current prices. There exists no generally accepted method to show the effects of price rises on Group equity and income. We have calculated these effects in the manner set forth below.

Method of calculation

Non-current assets

The current value of land has generally been approximated on the basis of appraisals.
To calculate the current value of buildings, machinery and equipment, indexes from external sources in the principal countries of establishment were used. A decrease in value as a result of technological advances, estimated to be 1% annually for buildings and 2% annually for machinery and equipment, was deducted from the current values so obtained, where the indexes did not themselves reflect such a decrease.
In cases where the current value thus calculated exceeded the value to the business, the latter value was used. As a consequence, a substantial part of the buildings, machinery and equipment in Europe for the production of man-made fibers was not revalued.
The current values in foreign currencies have been translated into guilders at rates virtually equal to the rates of exchange in force at year's end.
For non-consolidated companies, an overall revaluation was made on the basis of the estimated current value of their property, plant and equipment.

Current assets

For inventories, no revaluation was made, as the value shown in the consolidated balance sheet does not differ materially from the current value of inventories.

Stockholders' equity

Stockholders' equity on a current-value basis has been determined by adding to stockholders' equity as shown in the consolidated balance sheet, the amount of the revaluation of non-current assets, less the relevant deferred taxes, calculated at an average rate of 50%, and after deduction of minority interest.

Liabilities

Liabilities on a current-value basis have been determined by adding to liabilities as shown in the consolidated balance sheet the amount for deferred taxes arising from the revaluation of property, plant and equipment.

Operating income

The amount of the adjustment to current prices of operating income comprises:
- the increase in the value of inventories computed for the normal inventory level;
- the additional depreciation needed if depreciation is computed on the current value of property, plant and equipment.

Group income (loss) and net income (loss)

The amount of the adjustment to current prices of Group income (loss) before extraordinary items comprises:
- the above increase in the value of inventories plus the additional depreciation, less taxes calculated at an average rate of 50%;
- the effect of additional depreciation of property, plant and equipment on equity in earnings of non-consolidated companies.

The amount of the adjustment to current prices of net income (loss) before extraordinary items consists of the above amount of the adjustment to current prices of Group income (loss), less the minority interest included therein.

Financial ratios	1979		1978*	
	on the basis of historical cost	on the basis of current value	on the basis of historical cost	on the basis of current value
Group equity : liabilities	0.43	0.49	0.46	0.52
stockholders' equity per common share of Hfl 20 par value, in Hfl	78.55	95.54	75.35	94.69
net income (loss) before extraordinary items:				
per common share of Hfl 20 par value, in Hfl	9.75	4.75	1.66	(0.95)
as percentage of stockholders' equity	12.4	5.0	2.2	(1.0)
operating income as percentage of sales	5.7	3.0	3.9	2.5

* restated for comparison

Condensed consolidated balance sheet

in Hfl million	December 31, 1979 on the basis of historical cost	December 31, 1979 on the basis of current value	December 31, 1978 on the basis of historical cost	December 31, 1978 on the basis of current value
non-current assets	3,714	4,895	3,850	5,031
current assets	5,315	5,315	4,540	4,540
total assets	9,029	10,210	8,390	9,571
Akzo N.V. stockholders' equity	2,325	2,828	2,231	2,803
minority interest	408	529	397	487
Group equity	2,733	3,357	2,628	3,290
liabilities	6,296	6,853	5,762	6,281
total Group equity and liabilities	9,029	10,210	8,390	9,571

Current value has been calculated at 1979 and 1978 prices, respectively.

Changes in stockholders' equity

in Hfl million		1979		1978*
stockholders' equity on a current-value basis at January 1		2,803		2,870
net income (loss) before extraordinary items	141		(28)	
goodwill resulting from acquisition of companies	(6)		(17)	
dividends	(71)		–	
other changes	(39)		(22)	
		25		(67)
stockholders' equity on a current-value basis at December 31		2,828		2,803

Other changes comprise the extraordinary items, the revaluation of non-current assets, the increase in the value of inventories, and the effect of changes in exchange rates.

Operating income and Akzo N.V. net income (loss) before extraordinary items

in Hfl million	1979	1978*
operating income		
at historical cost	689	421
amount of adjustment to current prices	(326)	(152)
at current cost	363	269
net income (loss) before extraordinary items		
at historical cost	289	49
amount of adjustment to current prices	(148)	(77)
at current cost	141	(28)
breakdown of the adjustments:		
increase in the value of inventories	(194)	(44)
additional depreciation of property, plant and equipment	(132)	(108)
amount of adjustment to current prices of operating income	(326)	(152)
relevant taxes	163	76
equity in earnings of non-consolidated companies	(9)	(16)
amount of adjustment of Group income (loss)	(172)	(92)
of which minority interest	24	15
amount of adjustment to current prices of net income (loss)	(148)	(77)

Current cost has been calculated at 1979 and 1978 prices, respectively.

* restated for comparison

Akzo N.V. balance sheet

after allocation of profit

see notes on page 56

in Hfl million	December 31, 1979		December 31, 1978	
affiliated companies				
consolidated companies	2,810.5		2,657.4	
non-consolidated companies	46.7		41.2	
loans to affiliated companies	816.0		1,239.5	
		3,673.2		3,938.1
short-term receivables and prepaid expenses				
receivables from affiliated companies	30.0		24.5	
other receivables	36.6		20.7	
prepaid expenses	9.6		10.2	
		76.2		55.4
cash and marketable securities				
marketable securities	2.1		2.6	
short-term investments	535.1		295.8	
cash on hand and in banks	75.0		24.7	
		612.2		323.1
total assets		4,361.6		4,316.6
stockholders' equity				
common stock	591.9		591.9	
cumulative preferred stock	0.7		0.8	
priority stock	0.0		0.0	
capital stock	592.6		592.7	
capital surplus, paid in	658.0		658.0	
other reserves	1,074.7		980.0	
		2,325.3		2,230.7
borrowings				
convertible debentures	241.1		252.0	
other debentures	395.8		248.5	
borrowings from affiliated companies	221.6		443.1	
other borrowings	974.7		970.8	
		1,833.2		1,914.4
current liabilities				
amounts due to affiliated companies	16.5		15.3	
final dividend	41.3		–	
bank borrowings and overdrafts	59.0		81.4	
other liabilities and accrued charges	86.3		74.8	
		203.1		171.5
total stockholders' equity and debts		4,361.6		4,316.6

Akzo N.V. statement of income and allocation of profit

see notes on page 56

in Hfl		1979	1978
net income before extraordinary items		289,200,000	49,200,000
extraordinary items		(59,500,000)	(24,900,000)
net income		229,700,000	24,300,000
reservation, pursuant to art. 38, para 2, of the articles of association, deemed necessary to counteract the effect of price rises on income		(148,000,000)	(24,300,000)
profit available for allocation under art. 42 of the articles of association		81,700,000	–
Pursuant to art. 42 of the articles of association, it is proposed to allocate this amount as follows:			
to be distributed:			
dividend on priority stock: Hfl 300 per share of Hfl 1,000 par value*	14,400		
dividend on cumulative preferred stock: Hfl 300 per share of Hfl 1,000 par value*	191,400		
bonus to supervisory council	342,500		
dividend on common stock: Hfl 2.40 per share of Hfl 20 par value	70,827,456		
		71,375,756	
to be retained		10,324,244	

* including accrued and unpaid dividends

Following the acceptance of this proposal, the holders of common stock will receive a dividend of Hfl 2.40 per share of Hfl 20 par value, of which Hfl 1 was paid earlier as an interim dividend.

The final dividend of Hfl 1.40 will be made available on dividend coupon no. 14 from May 28, 1980.

Arnhem, March 27, 1980

The board of management:

A.G. van den Bos
A.A. Loudon
J.A. Wolhoff
H. van Doodewaerd
A. van Driel
M.W. Geerlings
H.J. Kruisinga
J. Veldman
H.J.J. van der Werf
M.D. Westermann
H.G. Zempelin

The supervisory council:

J.R.M. van den Brink
G. Kraijenhoff
Y. Scholten
S.C. Bakkenist
P.M.H. van Boven
A. Herrhausen
H.L. Merkle
H.J. Schlange-Schöningen
K. Schudel-van Zwanenberg
J. de Vries
O. Wolff von Amerongen

Notes to Akzo N.V. balance sheet and statement of income

General

The investments in affiliated companies, as well as the other assets and liabilities, have been valued, and net income has been determined, in accordance with the principles of valuation and determination of income mentioned on page 41. Thus stockholders' equity and net income are equal to stockholders' equity and net income as shown in the consolidated financial statements on pages 42 and 43.

Non-consolidated companies

in Hfl million	
situation at December 31, 1978	41.2
equity in 1979 earnings	11.5
dividends received	(4.1)
changes in exchange rates	(2.0)
other changes	0.1
situation at December 31, 1979	46.7

Capital stock

Authorized capital stock of Akzo N.V. is Hfl 1,030,048,000 and consists of 48 shares of priority stock, par value Hfl 1,000 per share; 30,000 shares of cumulative preferred stock, par value Hfl 1,000 per share; and 50 million shares of common stock, par value Hfl 20 per share.
Outstanding capital stock consists of 48 shares of priority stock, 638 shares of cumulative preferred stock, and 29,593,586 shares of common stock (of which 82,146 shares of common stock are held by the Company).

A total of 122 shares of cumulative preferred stock were purchased in 1979.
The priority stock is held by "Akzostichting" (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.

Borrowings

For information on the convertible and other debentures, see the notes to the consolidated financial statements (pages 48 and 49).
Borrowings from affiliated companies have no fixed repayment schedule. A portion of these borrowings bears no interest. To the extent that interest is charged, it averages 9.4% (1978: 7.1%).
Interest on other borrowings averages 9.4% (1978: 8.7%).
The repayment schedule for the other borrowings is as follows:

in 1980	Hfl 83 million
during the years 1981 through 1985	Hfl 729 million
during the years 1986 through 1990	Hfl 163 million
	Hfl 975 million

Remuneration of supervisory council

For 1979 the members of the supervisory council were paid a total of Hfl 598,125 (1978: Hfl 240,208), of which Hfl 255,625 (1978: Hfl 240,208) was fixed remuneration and Hfl 342,500 (1978: nil) was a bonus pursuant to art. 42 of the articles of association.
All members receive remuneration.
At end-1979 the council numbered 11 members (end-1978: 12).

Provisions of the articles of association in re reservation and allocation of profit

Article 38, para 2
The balance sheet and the statement of income shall indicate such ordinary and extraordinary allowances for depreciation and reserves as the Board of Management in consultation with the Supervisory Council shall deem necessary.

Article 42
1
Profits as shown by the statement of income approved by the General Meeting of Shareholders shall, to the extent possible, be allocated in the following order:
a
to the holders of priority shares: sixty guilders per share, plus any accrued and unpaid dividends;
b
to the holders of cumulative preferred shares: sixty guilders per share, plus any accrued and unpaid dividends;
c
to the holders of ordinary shares: one guilder per share;
d
to each of the members of the Supervisory Council: one thousandth of the profit after deducting from such profit the amounts allocated in accordance with a, b and c hereof, subject to a maximum of thirty thousand guilders;
e
to the holders of ordinary shares: a dividend of such an amount per share as the profit, less the aforesaid payments and less such amounts as the General Meeting of Shareholders may decide to carry to reserves, shall permit.

2
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 paragraph 1 e of this article.

Auditors' report

We have examined the foregoing 1979 financial statements of Akzo N.V., Arnhem. For the purpose of our examination we also have made use of the reports of other independent auditors with respect to a number of subsidiaries.
In our opinion, these financial statements present fairly the financial position of Akzo N.V. at December 31, 1979, and the results of operations for the year then ended.

Arnhem, March 27, 1980

Klynveld Kraayenhof & Co.

Ten-year financial summary

The figures set forth below are based on historical cost; for figures based on current value, see page 60.

consolidated balance sheet at year's end	1979	1978	1977	1976	1975	1974	1973*	1972*	1971	1970*
in Hfl million										
property, plant and equipment	3,273	3,360	3,577	3,904	4,396	4,322	4,235	4,250	4,274	4,280
investments in non-consolidated companies	297	338	321	288	307	285	282	341	335	306
other non-current assets	144	152	148	162	125	175	155	130	140	143
non-current assets	3,714	3,850	4,046	4,354	4,828	4,782	4,672	4,721	4,749	4,729
inventories	2,233	1,902	1,920	1,949	2,113	2,562	1,641	1,615	1,664	1,581
short-term receivables	2,231	1,992	1,882	1,787	1,906	1,831	1,954	1,728	1,590	1,563
prepaid expenses	46	48	60	59	51	56	52	54	56	61
cash and marketable securities	805	598	580	611	539	524	840	645	616	493
current assets	5,315	4,540	4,442	4,406	4,609	4,973	4,487	4,042	3,926	3,698
total assets	9,029	8,390	8,488	8,760	9,437	9,755	9,159	8,763	8,675	8,427
capital stock	593	593	593	593	593	593	562	542	542	521
capital surplus, paid in	658	658	658	658	658	658	689	710	710	730
other reserves	1,074	980	1,074	1,377	1,733	2,223	2,036	1,813	1,740	1,867
stockholders' equity	2,325	2,231	2,325	2,628	2,984	3,474	3,287	3,065	2,992	3,118
minority interest in Group equity	408	397	414	486	541	565	573	570	610	536
Group equity	2,733	2,628	2,739	3,114	3,525	4,039	3,860	3,635	3,602	3,654
provisions	1,147	1,054	1,039	942	1,052	958	991	809	725	857
long-term debt	2,600	2,276	2,496	2,626	2,693	2,124	2,047	2,407	2,402	2,198
long-term liabilities	3,747	3,330	3,535	3,568	3,745	3,082	3,038	3,216	3,127	3,055
bank borrowings and overdrafts	453	386	347	310	308	410	162	223	273	270
other current liabilities	2,096	2,046	1,867	1,768	1,859	2,224	2,099	1,689	1,673	1,448
current liabilities	2,549	2,432	2,214	2,078	2,167	2,634	2,261	1,912	1,946	1,718
total Group equity and liabilities	9,029	8,390	8,488	8,760	9,437	9,755	9,159	8,763	8,675	8,427
invested capital**:										
of consolidated companies	6,183	5,620	5,953	6,394	6,963	6,836	6,616	6,510	6,394	6,403
in non-consolidated companies	297	338	321	288	307	285	282	341	335	306
total	6,480	5,958	6,274	6,682	7,270	7,121	6,898	6,851	6,729	6,709
property, plant and equipment										
capital expenditures	461	434	409	413	745	799	549	555	943	1,035
depreciation	506	486	494	533	519	531	540	527	526	472
ratios										
sales : invested capital	1.94	1.90	1.75	1.68	1.40	1.57	1.42	1.26	1.26	1.13
Group equity : liabilities	0.43	0.46	0.48	0.55	0.60	0.71	0.73	0.71	0.71	0.77
Group equity : non-current assets	0.74	0.68	0.68	0.72	0.73	0.84	0.83	0.77	0.76	0.77
current assets : current liabilities	2.09	1.87	2.01	2.12	2.13	1.89	1.98	2.11	2.02	2.15

development of stockholders' equity (in Hfl million)	1970-1979	1979	1978	1977	1976	1975	1970-1974
stockholders' equity at January 1	2,981	2,231	2,325	2,628	2,984	3,474	2,981
issuance of stock, including capital surplus	34						34
stock dividends	208						208
retained earnings	257	158	24	(166)	(153)	(440)	834
goodwill resulting from acquisition of companies	(250)	(6)	(17)	(12)	(4)	(27)	(184)
change in exchange rates	(911)	(99)	(147)	(91)	(213)	(48)	(313)
other changes	6	41	46	(34)	14	25	(86)
stockholders' equity at December 31	2,325	2,325	2,231	2,325	2,628	2,984	3,474

* based on cash dividend

** Group equity plus long-term liabilities

consolidated statement of income	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
in Hfl million										
sales	12,015	10,666	10,433	10,750	9,717	10,761	9,418	8,235	8,056	7,249
salaries, wages and social charges	(3,572)	(3,395)	(3,277)	(3,277)	(3,109)	(3,144)	(2,764)	(2,478)	(2,354)	(2,073)
depreciation	(506)	(486)	(494)	(533)	(519)	(531)	(540)	(527)	(526)	(472)
other costs	(7,248)	(6,364)	(6,422)	(6,635)	(6,106)	(6,314)	(5,350)	(4,645)	(4,535)	(4,064)
operating income (loss)	689	421	240	305	(17)	772	764	585	641	640
interest	(259)	(248)	(245)	(249)	(234)	(147)	(147)	(172)	(165)	(112)
taxes on operating income less interest	(136)	(113)	(65)	(59)	58	(226)	(283)	(181)	(238)	(259)
equity in earnings of non-consolidated companies	32	28	34	24	13	42	42	29	23	31
Group income (loss) before extraordinary items	326	88	(36)	21	(180)	441	376	261	261	300
extraordinary items	(60)	(25)	(122)	(167)	(253)	8	(3)	7	4	19
Group income (loss)	266	63	(158)	(146)	(433)	449	373	268	265	319
of which minority interest	(36)	(39)	(8)	(7)	(7)	(69)	(82)	(51)	(56)	(58)
net income (loss)	230	24	(166)	(153)	(440)	380	291	217	209	261
profit available for allocation	82	–	–	–	–	210	241	188	184	241
distributed income	71	–	–	–	–	118	107*	97*	98	104*
common stock, in thousands of shares of Hfl 20 par value	29,594	29,594	29,594	29,594	29,594	29,594	28,062	26,989	26,989	25,958
number of employees	83,000	83,200	84,400	91,100	98,200	105,400	105,800	101,000	104,500	100,800
per common share of Hfl 20 par value, in Hfl										
net income (loss) before extraordinary items	9.75	1.66	(1.75)	0.20	(6.53)	12.55	10.48	7.70	7.62	9.22
net income (loss) after extraordinary items	7.74	0.82	(5.63)	(5.16)	(14.86)	12.83	10.37	8.02	7.72	10.01
profit available for allocation	2.74	–	–	–	–	7.08	8.59	6.94	6.81	9.24
dividend	2.40	–	–	–	–	4.00	3.80	3.60	3.60	4.00
of which, at stockholder's option, in common stock							2.60	2.40		2.80
number of shares entitling holder to one new share							18	25		25
stockholders' equity	78.55	75.35	78.52	88.78	100.80	117.36	117.08	113.49	110.78	120.06
ratios										
operating income (loss), as percentage of sales	5.7	3.9	2.3	2.8	(0.2)	7.2	8.1	7.1	8.0	8.8
salaries, wages and social charges, as percentage of sales	29.7	31.8	31.4	30.5	32.0	29.2	29.3	30.1	29.2	28.6
net income (loss) before extraordinary items, as percentage of stockholders' equity	12.4	2.2	(2.2)	0.2	(6.5)	10.7	9.0	6.8	6.9	7.7
net income (loss) after extraordinary items, as percentage of stockholders' equity	9.9	1.1	(7.2)	(5.8)	(14.7)	10.9	8.9	7.1	7.0	8.4

* of which Hfl 35 million (1973), Hfl 33 million (1972) and Hfl 32 million (1970) in cash

consolidated statement of changes in financial position	1979	1978	1977	1976	1975	1974
in Hfl million						
working capital (excess of current assets over current liabilities) at January 1	2,108	2,228	2,327	2,441	2,339	2,226
source of funds						
funds from operations	976	659	539	503	370	1,024
borrowings	538	390	289	496	826	422
funds retained through payment of Akzo N.V. final 1973 dividend in stock						72
miscellaneous	3	19	62	41	17	20
	1,517	1,068	890	1,040	1,213	1,538
application of funds						
expenditures for property, plant and equipment	461	434	409	413	745	799
acquisitions	76	90	60	50	92	65
other non-current assets	(8)	4	(12)	41	(43)	20
repayment of borrowings	202	557	408	446	277	306
dividends paid to stockholders of Akzo N.V.	71	–	–	–	–	118
miscellaneous	57	103	124	204	40	117
	859	1,188	989	1,154	1,111	1,425
working capital at December 31	2,766	2,108	2,228	2,327	2,441	2,339

figures on a current-value basis	1979	1978*	1977*	1976*	1975*	1974*
Group equity, in Hfl million	3,357	3,290	3,369	3,764	4,225	4,559
stockholders' equity, in Hfl million	2,828	2,803	2,870	3,193	3,585	3,928
Group equity : liabilities	0.49	0.52	0.54	0.61	0.64	0.74
stockholders' equity, per common share of Hfl 20 par value, in Hfl	95.54	94.69	96.95	107.87	121.14	132.73
operating income (loss)						
in Hfl million	363	269	104	77	(315)	402
as percentage of sales	3.0	2.5	1.0	0.7	(3.2)	3.7
net income (loss) before extraordinary items						
in Hfl million	141	(28)	(124)	(105)	(339)	216
per common share of Hfl 20 par value, in Hfl	4.75	(0.95)	(4.19)	(3.55)	(11.46)	7.30
as percentage of stockholders' equity	5.0	(1.0)	(4.3)	(3.3)	(9.5)	5.5

* restated for comparison

product group statistics*	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
in Hfl million										
sales										
man-made fibers										
textile uses	2,817	2,633	2,590	2,834	2,880	3,386	3,497	3,060	3,069	2,851
industrial uses	1,035	934	1,008	970	827	1,142	901	738	771	710
	3,852	3,567	3,598	3,804	3,707	4,528	4,398	3,798	3,840	3,561
chemical products										
salt and heavy chemicals	2,237	1,794	1,854	1,722	1,428	1,653	1,204	1,147	1,030	973
specialty chemicals	1,244	1,122	1,144	1,061	824	991	753	645	622	403
	3,481	2,916	2,998	2,783	2,252	2,644	1,957	1,792	1,652	1,376
coatings	1,221	1,049	975	941	836	772	638	575	535	524
	4,702	3,965	3,973	3,724	3,088	3,416	2,595	2,367	2,187	1,900
pharmaceuticals	1,274	1,211	1,099	1,071	971	819	706	624	579	471
consumer products	725	696	611	789	779	679	539	490	502	596
miscellaneous products	1,595	1,349	1,274	1,362	1,172	1,319	1,180	956	948	721
	3,594	3,256	2,984	3,222	2,922	2,817	2,425	2,070	2,029	1,788
total	12,148	10,788	10,555							
intra-Group deliveries	(133)	(122)	(122)							
sales to third parties	12,015	10,666	10,433	10,750	9,717	10,761	9,418	8,235	8,056	7,249
operating income (loss)										
man-made fibers	74	10	(88)	(142)	(326)	223	390	231	371	325
chemical products	253	122	110							
coatings	98	64	45							
	351	186	155	182	80	317	168	172	136	201
pharmaceuticals	134	140	133							
consumer products	31	31	16							
miscellaneous products	132	107	80							
	297	278	229	265	229	232	206	182	134	114
total	722	474	296							
non-allocated costs	(33)	(53)	(56)							
operating income (loss)	689	421	240	305	(17)	772	764	585	641	640
operating income (loss), as percentage of sales										
man-made fibers	1.9	0.3	(2.4)	(3.7)	(8.8)	4.9	8.9	6.1	9.7	9.1
chemical products	7.3	4.2	3.7							
coatings	8.0	6.1	4.6							
	7.5	4.7	3.9	4.9	2.6	9.3	6.5	7.3	6.2	10.6
pharmaceuticals	10.5	11.6	12.1							
consumer products	4.3	4.5	2.6							
miscellaneous products	8.3	7.9	6.3							
	8.3	8.5	7.7	8.2	7.8	8.2	8.5	8.8	6.6	6.4
total	5.7	3.9	2.3	2.8	(0.2)	7.2	8.1	7.1	8.0	8.8

For the years 1970 through 1976, intra-Group deliveries and non-allocated costs are deducted from sales and operating income, respectively, of the several product groups. This does not materially affect the comparability with subsequent years.

* consolidated companies

geographical statistics*	1979	1978	1977	1976	1975	1974	1973
in Hfl million							
EEC countries							
sales by area of destination							
the Netherlands	1,419	1,289	1,284	1,295	1,218	1,302	1,126
West Germany	2,243	1,966	1,932	2,056	1,939	2,115	1,925
other EEC countries	2,791	2,348	2,143	2,198	2,020	2,229	1,904
	6,453	5,603	5,359	5,549	5,177	5,646	4,955
sales by area of origin							
the Netherlands	4,212	3,623	3,585	3,706	3,237	3,554	2,903
West Germany	3,087	2,825	2,658	2,727	2,547	2,819	2,520
other EEC countries	1,287	1,161	1,055	1,003	994	1,124	1,093
	8,586	7,609	7,298	7,436	6,778	7,497	6,516
operating income	441	196	83	146	(187)	474	
invested capital							
the Netherlands	2,414	2,053	2,156	2,497	2,417	2,268	2,235
West Germany	1,574	1,546	1,653	1,588	1,761	1,856	1,811
other EEC countries	503	420	393	262	503	595	593
	4,491	4,019	4,202	4,347	4,681	4,719	4,639
number of employees							
the Netherlands	23,700	24,300	25,400	27,600	29,700	30,600	29,700
West Germany	21,200	21,300	21,800	23,800	26,000	28,800	28,500
other EEC countries	9,600	10,200	10,000	11,000	13,400	14,700	14,400
	54,500	55,800	57,200	62,400	69,100	74,100	72,600
rest of Europe							
sales by area of destination	1,732	1,384	1,473	1,646	1,432	1,531	1,302
sales by area of origin	711	573	561	712	685	691	617
operating income	56	40	(2)	16	10	68	
invested capital	324	246	263	403	500	475	438
number of employees	6,300	6,000	6,300	7,600	7,800	8,100	8,200
North America							
sales by area of destination	2,413	2,315	2,334	2,292	2,018	2,318	2,182
sales by area of origin	2,224	2,027	2,133	2,147	1,909	2,163	2,008
operating income	113	99	87	53	103	166	
invested capital	1,186	1,129	1,289	1,423	1,543	1,392	1,326
number of employees	16,200	15,600	15,300	15,500	16,100	17,100	20,100
rest of the world							
sales by area of destination	1,417	1,364	1,267	1,263	1,090	1,266	979
sales by area of origin	494	457	441	455	345	410	277
operating income	79	86	72	90	57	64	
invested capital	182	226	199	221	239	250	213
number of employees	6,000	5,800	5,600	5,600	5,200	6,100	4,900

* consolidated companies

Principal companies of the Akzo Group

December 31, 1979

Percentages of participation are only stated for companies in which Akzo N.V. holds a direct and/or indirect interest of less than 95% in voting stock.

Enka, Wuppertal	**W. Germany**	
man-made fibers, machinery, dialysis membranes, plastics, non-wovens, films, various industrial products		
Enka B.V., Arnhem	Netherlands	
Enka International B.V., Arnhem	Netherlands	
Akzo Plastics B.V., Arnhem	Netherlands	
Enka AG, Wuppertal	W. Germany	
Barmag Barmer Maschinenfabrik AG, Remscheid-Lennep	W. Germany	
with establishments in Switzerland[a], U.S.A., Brazil[a], and Hong Kong		
Italenka S.p.A., Milan	Italy	
British Enkalon Ltd, Leicester	U.K.	(71)
Brand-Rex Ltd, Glenrothes	U.K.	(42[b])
Erste Österr. Glanzstoff-Fabrik AG, Vienna	Austria	(93)
La Seda de Barcelona S.A., Barcelona	Spain	(57)
Cyanenka S.A., Prat de Llobregat	Spain	(44)
Fibras Químicas S.A., Monterrey	Mexico	(40)
Petroquímica Sudamericana S.A., Buenos Aires	Argentina	(40)
Polyenka S.A., Indústria Química e Têxtil, São Paulo	Brazil	(51)
COBAFI Companhia Bahiana de Fibras S.A., Camaçari	Brazil	(45)
Enka de Colombia S.A., Medellín	Colombia	(48)
Enkador S.A., Quito	Ecuador	(48)
Century Enka Ltd, Calcutta	India	(39)
Nichemtex Industries Ltd, Lagos	Nigeria	(28)

Akzo Zout Chemie, Hengelo (O)	**Netherlands**	
salt, chlorine, alkali products, petrochemicals		
Akzo Zout Chemie Nederland B.V., Hengelo	Netherlands	
Methanol Chemie Nederland v.o.f., Delfzijl	Netherlands	(50)
Delamine B.V., Delfzijl	Netherlands	(35)
Norddeutsche Salinen GmbH, Stade	W. Germany	
Elektro-Chemie Ibbenb. GmbH, Ibbenbüren	W. Germany	(50)
Konezo, div. of Akzo België N.V., Brussels	Belgium	
Dansk Salt I/S, PR Mariager	Denmark	(50)
Companhia Industrial do Rio Grande do Norte (CIRNE), Macau	Brazil	
Denak K.K., Tokyo	Japan	(50)

Akzo Chemie, Amersfoort	**Netherlands**	
specialty chemicals, organic chemicals, industrial chemicals, catalysts, glass fibers		
Akzo Chemie Nederland B.V., Amersfoort	Netherlands	
Ketjen Carbon B.V., Rotterdam	Netherlands	(60)
Cyanamid-Ketjen Katalysator B.V., Amsterdam	Netherlands	(50)
Silenka B.V., Hoogezand	Netherlands	(33)
Akzo Chemie GmbH, Düren	W. Germany	
Carbosulf Chemische Werke GmbH, Cologne	W. Germany	(67)
Rhodanid Chemie GmbH, Cologne	W. Germany	(67)
Akzo Chemie, division of Akzo België N.V., Mons	Belgium	
Amdic S.A., Mons	Belgium	(50)
Stikstofderivaten N.V., Mons	Belgium	(50)
Akzo Chemie France S.à.r.l., Compiègne	France	
Akzo Chemie Italia S.p.A., Arese	Italy	
Akzo Chemie U.K. Ltd, London	U.K.	
Interstab Chemicals Inc., N. Brunswick, New Jersey	U.S.A.	
Poliquíma Indústria e Comércio S.A., São Paulo	Brazil	
Nippon Ketjen K.K., Tokyo	Japan	(50)
Kayaku Noury K.K., Tokyo	Japan	(50)
Lion Akzo Co. K.K., Tokyo	Japan	(50)
Akulu Chemicals (Pty) Ltd, Isithebe	South Africa	(50)

Akzo Coatings, Amstelveen	**Netherlands**	
paints, stains, synthetic resins, adhesives		
Sikkens B.V., Sassenheim	Netherlands	
Koninklijke Talens B.V., Apeldoorn	Netherlands	
Kunstharsfabriek Synthese B.V., Bergen op Zoom	Netherlands	
Deutsche Akzo Coatings GmbH, Stuttgart	W. Germany	
with establishment in Austria		
Akzo Coatings Belgium N.V., Ternat	Belgium	
Astral S.A., Paris	France	
with establishments in Morocco[a], Tunisia[a], Senegal[a], Ivory Coast[a] and Cameroun[a]		
Dacral S.A., Paris	France	(48)
Sikkens U.K. Ltd, London	U.K.	
Akzo Coatings Italia S.p.A., Mornago	Italy	
Ivanow S.A., Barcelona	Spain	(53)
Miluz S.A.I.C.I.F., Buenos Aires	Argentina	(49)
R. Montesano S.A. – Tintas Wanda, São Paulo	Brazil	
Metropolitan Paint Factory Ltd, Bangkok	Thailand	(55)
Toa Akzo Coatings K.K., Tokyo	Japan	(50)

a participation less than 95%

b affiliate of British Enkalon Ltd (60%) and Akzona Inc. (40%); total participation of Akzo N.V.: 69%

64 **Akzo Pharma, Oss** **Netherlands**

ethical drugs
(Organon International B.V., Oss),
hospital supplies and equipment
(Organon Teknika B.V., Oss),
non-prescription drugs
(Chefaro International B.V., Rotterdam),
raw materials for the pharmaceutical industry
(Diosynth B.V., Oss),
veterinary products
(Intervet International B.V., Boxmeer)

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

- the Netherlands, West Germany, Belgium, France, Italy, United Kingdom, Republic of Ireland, Denmark, Norway, Sweden, Finland, Switzerland, Spain, Portugal, Greece, Turkey
- United States
- Mexico, Argentina, Brazil, Colombia, Ecuador, Venezuela
- Lebanon, Iran[a], Bangladesh[a], India[a], Pakistan[a], Thailand, Indonesia[a], Philippines, Hong Kong, Japan[a]
- Australia, New Zealand
- Morocco, Zaire, South Africa[a]

Akzo Consumenten Produkten, The Hague **Netherlands**

detergents and cleaning products, health and body-care products, foodstuffs

Kortman & Schulte B.V., Dordrecht	Netherlands	
Otarès B.V., Enschede	Netherlands	
Grada Producten B.V., Amsterdam	Netherlands	(50)
Recter B.V., Veenendaal	Netherlands	
Aerofako B.V., Apeldoorn	Netherlands	
Kon. Eau de Colognefabriek J.C. Boldoot B.V., Apeldoorn	Netherlands	
Kon. Fabr. T. Duyvis Jz. B.V., Zaanstad	Netherlands	
Rotterdamsche Margarine Industrie ROMI B.V., Vlaardingen	Netherlands	
Kortman, division of Akzo België N.V., Brussels	Belgium	
Mayolande S.A., Seclin	France	(90)
A/S Blumøller, Odense	Denmark	
Tomten A/S, Sandvika	Norway	

Akzona Inc., Asheville, North Carolina **U.S.A.** (66)

man-made fibers, specialty chemicals, leather, wire, cable and electronic/electrical devices, salt, pharmaceuticals, various industrial products

American Enka Co., Enka, North Carolina	U.S.A.
Armak Co., Chicago, Illinois with establishment in Canada	U.S.A.
Armira Corp., Sheboygan, Wisconsin	U.S.A.
Brand-Rex Co., Willimantic, Connecticut with establishments in Canada, United Kingdom[b] and Switzerland	U.S.A.
International Salt Co., Clarks Summit, Pennsylvania with establishments in Canada and the Netherlands Antilles	U.S.A
Organon Inc., West Orange, New Jersey with establishment in Canada	U.S.A.

Other companies

N.V. Verenigde Instrumentenfabrieken Enraf-Nonius, Delft (medical equipment, etc.)	Netherlands	(17)
Akzo Engineering B.V., Arnhem	Netherlands	

Dividends are paid through the following banks:

the Netherlands

Amsterdam-Rotterdam Bank
Algemene Bank Nederland
Bank Mees & Hope
Coöperatieve Centrale Raiffeisen-Boerenleenbank
Nederlandse Credietbank
Nederlandsche Middenstandsbank
Pierson, Heldring & Pierson
at their offices in Amsterdam, Rotterdam, The Hague and Arnhem, if established there

West 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, West Berlin and Wuppertal, if established there

Belgium

Generale Bankmaatschappij
Bank van Parijs en de Nederlanden België
Kredietbank
at their offices in Brussels and Antwerp

Luxemburg

Banque Générale du Luxembourg, Luxemburg

United Kingdom

Barclays Bank, 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
Schweizerische Bankverein, Basel
and at their Swiss branch offices
Pictet & Cie, Geneva

U.S.A.

The Chase Manhattan Bank, New York

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

the Netherlands:	Amsterdam
West Germany:	Frankfurt/Main, Düsseldorf and West Berlin
Switzerland:	Zurich, Basel and Geneva
France:	Paris
Belgium:	Brussels and Antwerp
United Kingdom:	London
Austria:	Vienna
Norway:	Oslo

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Printed by: Tesink, Zutphen, The Netherlands