BASF AKTIENGESELLSCHAFT Form 20-F March 17, 2004

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As filed with the Securities and Exchange Commission on March 17, 2004

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

# **FORM 20-F**

(Mark One)	
0	REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934 OR
ý	ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended	1 December 31, 2003
	OR
o	TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period	fromto
Commission file number	r: 1-15909

# **BASF AKTIENGESELLSCHAFT**

(Exact name of Registrant as specified in its charter)

## **BASF CORPORATION\***

(Translation of Registrant's name into English)

Federal Republic of Germany (Jurisdiction of incorporation or organization)

Carl Bosch Strasse 38 Ludwigshafen, GERMANY 67056

(Address of principal executive offices)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of each class Name of each exchange on which registered

American Depositary Shares representing BASF ordinary shares of no par value

New York Stock Exchange

BASF ordinary shares of no par value

New York Stock Exchange\*\*

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None (Title of Class)

#### Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None (Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the Annual Report.

As of December 31, 2003, there were 556,643,410 BASF ordinary shares of no par value outstanding.

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o

Indicate by check mark which financial statement item the registrant has elected to follow. Item 17 o Item 18 ý

BASF Corporation is also the name of a wholly owned subsidiary of the Registrant in the United States.

Not for trading, but only in connection with the registration of American Depositary Shares.

BASF Aktiengesellschaft is incorporated as a stock corporation organized under the laws of the Federal Republic of Germany. As used in this Annual Report, "BASF Aktiengesellschaft" refers solely to the ultimate parent company of the BASF Group. "BASF" refers to BASF Aktiengesellschaft and its consolidated subsidiaries.

The Consolidated Financial Statements of BASF are based on the accounting and valuation principles of the German Commercial Code (*Handelsgesetzbuch*), the accounting standards issued by the German Accounting Standards Board (GASB) and the German Stock Corporation Act (*Aktiengesetz*), collectively known as "German GAAP."

The accounting principles conform to U.S. generally accepted accounting principles (U.S. GAAP) to the extent permissible under the German Commercial Code. The reconciliation of remaining significant deviations to U.S. GAAP is described in Note 4 to the Consolidated Financial Statements included in Item 18.

The translation of euros into dollars has been made solely for the convenience of the reader at the noon buying rate of the Federal Reserve Bank of New York (the "Noon Buying Rate") on December 31, 2003, which was U.S. \$1.2597 = \$1.00. No representation is made that such amounts in euros could have been or could be converted into dollars at that or any other exchange rate on such date or any other dates.

# Forward-Looking Information May Prove Inaccurate

This Annual Report contains certain forward-looking statements and information relating to BASF that are based on the current expectations, estimates and projections of its management and information currently available to BASF. These statements include, but are not limited to, statements about BASF's strategies, plans, objectives, expectations, intentions, expenditures, and assumptions and other statements contained in this Annual Report that are not historical facts. When used in this document, the words "anticipate," "believe," "estimate," "expect," "intend," "plan" and "project" and other similar expressions are generally intended to identify forward-looking statements.

These statements reflect the current views of BASF with respect to future events. They are not guarantees of future performance and involve certain risks and uncertainties that are difficult to predict. In addition, certain forward-looking statements are based upon assumptions as to future events that may not prove to be accurate.

Many factors could cause the actual results, performance or achievements of BASF to be materially different from any future results, performance or achievements that may be expressed or implied by such forward-looking statements. These factors include, among others:

/*/	changes in general political, economic and business conditions in the countries or regions in which BASF operates;
/*/	changes in the laws or policies of governments or other governmental or quasi-governmental activities in the countries in which BASF operates;
/*/	changes in the composition of BASF Group companies and the successful integration of acquisitions, divestitures and joint venture activities;
/*/	increased price competition and the introduction of competing products by other companies;
<b>/</b> */	the ability to develop, introduce and market innovative products and applications;
/*/	the length and depth of product and industry business cycles, particularly in the automotive, construction, electrical and textile industries;
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/*/	changes in the demand for, supply of, and market prices of crude oil, refined products, natural gas and petrochemicals, including changes in production quotas in OPEC countries and the deregulation of the natural gas transmission industry in Europe;
/*/	the cost and availability of feedstock and other raw materials, including naphtha, and the price of steam cracker products;
/*/	the ability to pass increases in raw material costs on to customers;
/*/	changes in the degree of patent and other legal protection afforded to BASF's products;
/*/	regulatory approval, particularly in the areas of fine chemicals, agricultural products and plant biotechnology, and market acceptance of new products including genetically modified competitive products;
/*/	unexpected negative results from research and development and testing of current product candidates;
/*/	the ability to maintain plant utilization rates and to implement planned capacity additions and expansions;
/*/	the ability to reduce production costs by implementing technological improvements to existing plants;
/*/	the existence of temporary industry surplus production capacity resulting from the integration and start-up of new world-scale plants;
/*/	potential liability resulting from pending or future litigation, including litigation and investigations relating to antitrust violations in the vitamins business until early 1999;

/\*/
 potential liability for remedial actions under existing or future environmental regulations;
/\*/
 changes in currency exchange rates, interest rates and inflation rates; and
/\*/
 changes in business strategy and various other factors referenced in this Annual Report.

Many of these factors are macroeconomic in nature and are, therefore, beyond the control of BASF's management. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described herein as anticipated, believed, estimated, expected, intended, planned or projected. BASF does not intend, and does not assume any obligation, to update the forward-looking statements contained in this Annual Report.

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#### PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

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Item 3. Key Information

## SELECTED FINANCIAL DATA

The following selected financial data for each of the years in the five-year period ended December 31, 2003 are excerpted from the Consolidated Financial Statements of BASF, which have been audited by Deloitte & Touche GmbH, independent accountants during this period. These data are set forth in accordance with generally accepted accounting principles in Germany (German GAAP) and U.S. GAAP for all periods presented.

BASF's accounting and valuation methods conform to U.S. GAAP to the extent permissible under the German Commercial Code based on the accounting standards issued by the German Accounting Standards Board (GASB). See Notes 1 and 4 to the Consolidated Financial Statements in Item 18 for further information. In 2001, BASF changed its accounting for deferred income taxes and the method of depreciating certain fixed assets as described in Note 2 to the Consolidated Financial Statements. As a result, the selected financial data for 2001 are not directly comparable to that of prior years. The selected financial data presented below in accordance with U.S. GAAP for the years 2001, 2002 and 2003 have been derived from the Consolidated Financial Statements included in Item 18. The reconciliation of the differences between German GAAP and U.S. GAAP is described in Note 4 to the Consolidated Financial Statements.

The translation of euros into U.S. dollars for 2003 has been made solely for the convenience of the reader at the noon buying rate of the Federal Reserve Bank of New York (the "Noon Buying Rate") on December 31, 2003, which was U.S. \$1.2597 = \$1.00. No representation is made that such euro amounts could have been or could be converted into dollars at that or any other exchange rate on such date or any other dates.

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	2003	2003 (euros in millions	2002 s, except per share	2001 data and certain o	2000 ther date)	1999
Income Statement Data						
German GAAP						
Sales, net of petroleum and natural gas						
taxes <sup>(1)</sup>	\$ 42,025	€33,361	€32,216	€32,500	€35,946	€29,473
Gross profit on sales	12,632	10,028	10,400	10,312	12,691	11,081
Income from operations	3,348	2,658	2,641	1,217	3,070	2,009
Thereof special items	(422)	(335)	(240)	(1,076)	(330)	(941)
Income from ordinary activities	2,731	2,168	2,641	609	2,827	
Extraordinary income before taxes				6,121		
Income before taxes and minority						
interests	2,731	2,168	2,641	6,730	2,827	2,606

Income before minority interests	1,229	976	1,599	5,826	1,282	1,245
Net income	1,146	910	1,504	5,858	1,240	1,237
Basic earnings per share	2.04	1.62	2.60	9.72	2.02	2.00
Balance Sheet Data						
German GAAP						
Fixed assets	24,518	19,463	20,458	21,493	21,769	16,070
Current assets including deferred taxes and prepaid expenses	17,811	14,139	14,628	15,382	16,788	13,939
Total assets	42,328	33,602	35,086	36,875	38,557	30,009
Stockholders' equity	20,003	15,879	16,942	17,522	14,295	14,145
Thereof subscribed capital	1,795	1,425	1,460	1,494	1,555	1,590
Provisions and Liabilities	22,326	17,723	18,144	19,353	24,262	15,864
Thereof long-term	12,956	10,285	9,211	9,955	9,059	7,529
Total stockholders' equity and liabilities  Capital Expenditures and Depreciation	42,328	33,602	35,086	36,875	38,557	30,009
Additions to fixed assets	4,461	3,541	3,289	4,053	8,637	3,800
Depreciation and amortization of fixed	-,	2,012	-,,	.,,,,,,	-,	2,000
assets	3,379	2,682	2,501	2,945	2,921	2,681
U.S. GAAP Reconciliation	,	,	,	,	<i>'</i>	, i
Net income	1,685	1,338	1,717	5,692	1,454	1,325
Thereof from						
continuing operations	1,685	1,338	1,717	(238)	1,302	1,329
Basic earnings per share	3.00	2.38	2.96	9.45	2.37	2.14
Income from continuing operations						
per share				(0.39)	2.13	2.15
Diluted earnings per share	3.00	2.38	2.96	9.45	2.35	2.12
Stockholders' equity	21,695	17,222	17,920	18,538	15,229	14,753
Key Ratios						
Return on sales (%) <sup>(2)</sup>	8.0	8.0	8.2	3.7	8.5	6.8
Return on assets (%) <sup>(3)</sup>	7.4	7.4	8.4	3.1	9.9	10.2
Return on equity after						
taxes (%) <sup>(4)</sup>	6.0	6.0	9.3	(1.0)	9.0	9.1
		6				

# Weighted Average of Shares Outstanding Used in Determining Earnings per Share:

	2003	2002	2001	2000	1999
Basic earnings per share	561,886,993	579,118,368	602,586,176	612,806,123	618,073,268
Diluted earnings per share	561,886,993	579,118,368	602,586,176	621,581,022	627,161,758

<sup>(1)</sup> Since 2000, natural gas taxes only.

(3)

<sup>(2)</sup> Return on sales (%) is calculated by dividing income from operations by net sales.

Return on assets (%) is calculated by dividing income from ordinary activities plus interest expenses by the average amount of total assets of the current and the previous year.

(4)

Return on equity after taxes (%) is calculated by dividing net income, excluding extraordinary income after taxes, by the average amount of stockholders' equity of the current and the previous year.

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# REPORTABLE OPERATING SEGMENT DATA

	2003	2003	2002	2001	2000	1999	
		(euros in millions, except per share data and certain other date)					
Chemicals							
Sales	\$ 7,246	€ 5,752	€ 5,317	€ 4,494	€ 4,504	€ 3,289	
Income from operations	495	393	635	362	640	629	
Thereof special items	(135)	(107)	(41)	(63)	(5)	(37)	
Assets	5,946	4,720	4,997	4,847	4,232	3,386	
Plastics							
Sales	11,069	8,787	8,477	8,185	11,030	8,628	
Income from operations	373	296	582	(2)	902	656	
Thereof special items	(84)	(67)	(11)	(182)	101	2	
Assets	7,052	5,598	6,174	6,344	6,086	6,937	
Performance Products							
Sales	9,615	7,633	8,014	8,154	8,418	7,553	
Income from operations	602	478	646	99	586	708	
Thereof special items	(113)	(90)	(7)	(298)	(32)	(74)	
Assets	5,865	4,656	5,218	6,048	6,266	4,975	
Agricultural Products and Nutrition <sup>(1)</sup> ,							
thereof Agricultural Products							
Sales	4,001	3,176	2,954	3,478	2,428	1,745	
Income from operations	295	234	61	18	(443)	195	
Thereof special items	(76)	(60)	(38)	(182)	(341)	(3)	
Assets	6,957	5,523	5,092	6,377	6,607	1,949	
Fine Chemicals							
Sales	2,324	1,845	1,970	1,984	1,739	1,636	
Income from operations	157	125	(6)	(210)	(5)	(774)	
Thereof special items	(10)	(8)	(124)	(283)	(50)	(829)	
Assets	1,641	1,303	1,392	1,488	1,368	1,338	
Pharmaceuticals discontinued							
operations				264	2.526	2 107	
Sales				364	2,526	2,197	
Income from operations				30	243	(13)	
Thereof special items				29	(62)	(164)	
Assets					2,228	1,887	
Oil & Gas Sales	6,035	4,791	4 100	1516	2.057	2.051	
Income from operations	1,719	1,365	4,199 1,210	4,516 1,308	3,957 1,310	3,051 741	
•	1,/19	1,303	1,210	1,506	<i>'</i>		
Thereof special items	1 (75	2.711	2 (49	2 1 40	2.540	138	
Assets Others	4,675	3,711	3,648	3,149	3,540	3,003	
Sales	1,735	1,377	1,285	1,325	1,344	1,374	
Income from operations	(294)	(233)	(487)	(388)	(163)	(133)	
Assets	10,192	8,091	8,565	8,622	8,230	6,534	
. 100000	10,172	0,071	0,505	0,022	0,230	0,551	

### **BASF Group**

Sales	42,025	33,361	32,216	32,500	35,946	29,473
Income from operations	3,348	2,658	2,641	1,217	3,070	2,009
Thereof special items	(422)	(335)	(240)	(1,076)	(330)	(941)
Assets	42,328	33,602	35,086	36,875	38,557	30,009

(1)

Until 2001 including the pharmaceuticals business

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### **Dividends**

The Board of Executive Directors and the Supervisory Board of BASF Aktiengesellschaft propose dividends based on BASF Aktiengesellschaft's year-end unconsolidated financial statements. The proposal is then voted on at BASF's Annual Meeting, which is usually held at the end of April/beginning of May of the following year. Official invitation to the Annual Meeting is issued about six weeks in advance.

Since all BASF Shares are in bearer form, dividends are either remitted to the custodian bank on behalf of the stockholder, generally within two business days following the Annual Meeting, or, in the case of stockholders personally possessing certificates, available immediately following the Annual Meeting upon submission of the dividend coupon at the offices of BASF Aktiengesellschaft in Ludwigshafen, Germany, or the offices of BASF Aktiengesellschaft's appointed paying agents. On the dividend record date record holders of BASF's American Depositary Receipts (ADRs) will be entitled to receive payment in full of the declared dividend in respect of the year for which it is declared. Cash dividends payable to ADR holders will be paid to The Bank of New York, as depositary, in euros and, subject to certain exceptions, will be converted by the depositary into U.S. dollars. The amount of dividends received by holders of ADRs may be affected by fluctuations in exchange rates. See "Exchange Rate Information" for further information.

The following table lists the annual dividends payable per BASF Share in euros and the U.S. dollar equivalent for each of the years indicated. The table also discloses the dividend amount per BASF Share for 2003 proposed by the Supervisory Board and the Board of Executive Directors for approval at the Annual Meeting to be held on April 29, 2004. The table does not reflect the related tax credits available to eligible taxpayers. See "Item 10. Additional Information" Taxation of Dividends" for further information.

Dividend Paid for Each BASF Share

#### Year Ended December 31,

	Euro	Dollar
2003	1.40	1.76
2002	1.40	1.47
2001	1.30	1.16
2000	$2.00^{(1)}$	1.88
1999	1.13	1.03

(1) Thereof special dividend of €0.70 per qualifying share to distribute in full equity charged with 45% corporate income tax.

The euro dividend amounts are translated solely for the convenience of the reader into U.S. dollars (rounded to the nearest cent) at the Noon Buying Rate on the dividend payment date. For the dividend proposed to be paid in 2004 for the year ended December 31, 2003, the euro amount is translated into U.S. dollars (rounded to the nearest cent) on the basis of the Noon Buying Rate on December 31, 2003 of \$1.2597 = \$1.00.

# **Exchange Rate Information**

On January 1, 2002 the euro became the sole legal tender for business transactions in Germany and the other eleven countries participating in the European Monetary Union.

Since January 4, 1999, BASF Shares have been quoted in euros on the Frankfurt Stock Exchange. Fluctuations in the exchange rate between the euro and the U.S. dollar will affect, among other things, the U.S. dollar amount received by holders of BASF's ADRs upon conversion by the depositary of any cash dividends paid in euros on BASF Shares. It will also affect the U.S. dollar equivalent of the euro price of BASF Shares on the Frankfurt Stock Exchange, which will affect the market price of the ADRs on the New York Stock Exchange.

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The table below sets forth, for the periods and dates indicated, the high, low, period-average and period-end Noon Buying Rates for euros expressed in U.S. dollars for one euro. No representation is made that the euro or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or euros, as the case may be, at any particular rate.

Year			Period	
	High	Low	Average <sup>(1)</sup>	Period End
2003	1.2597	1.0361	1.4111	1.2597
2002	1.0485	0.8594	0.9495	1.0485
2001	0.9520	0.8370	0.8909	0.8901
2000	1.0335	0.8270	0.9207	0.9388
1999	1.1812	1.0016	1.0588	1.0071

(1) The average of the Noon Buying Rates on the last business day of each full month during the relevant period.

The high and low exchange rates for the euro for each month during the previous six months is set forth below:

	U.S. dolla	r for
Month	one eu	to
Monui	High	Low
February, 2004	1.2848	1.2426
January, 2004	1.2853	1.2389
December, 2003	1.2597	1.1956
November, 2003	1.1995	1.1417
October, 2003	1.1833	1.1596
September, 2003	1.1650	1.0845

The Noon Buying Rate for the euro on March 5, 2004 was quoted by the Federal Reserve Bank of New York at 1.2401 U.S. dollars for one euro.

As of January 4, 1999, the commencement date of euro trading, the Noon Buying Rate for the euro was quoted at \$1.1812 =  $\epsilon$ 1.00.

Because a substantial portion of the BASF Group's revenues and expenses are denominated in currencies other than the euro, results of operations and cash flows may be materially affected by movements in the exchange rate between the euro and the respective currencies to which the Group is exposed. For a discussion of the effect exchange rate fluctuations have on the BASF Group's business and operations and also the hedging techniques used to manage the Group's exposure to such fluctuations, see "Item 5. Operating and Financial Review and Prospects" Exchange Rate Exposure and Risk Management" and "Item 11. Quantitative and Qualitative Disclosures about Market Risk."

#### **Risk Factors**

BASF's business, financial condition or results of operations could suffer material adverse effects due to any of the following risks. While all the risks considered material are described below, these are not the only risks BASF faces. Additional risks not known by BASF or not presently considered material may also impair BASF's business operations.

Continuing weakness in the market for chemical products and in the global economy generally may adversely affect BASF's sales and earnings

Continued weak demand for chemical products in the United States, as well as ongoing economic weakness in Europe and Asia could have an adverse effect on both sales and earnings. Those areas that are subject to commoditization, such as BASF's basic inorganic chemicals, petrochemicals, intermediates and plastics operations are particularly vulnerable, whereas BASF's agricultural,

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nutrition, and cosmetics operations and natural gas trading are less likely to suffer. BASF is also regionally diversified, and therefore less likely to suffer from weakness in a specific region.

Changes in regulatory controls could reduce the profitability of BASF's current products and could delay BASF's introduction of new products

BASF must comply with a broad range of regulatory controls on the testing, manufacturing and marketing of many of its products. BASF expects that regulatory controls worldwide, and especially in the European Union (EU), will become increasingly demanding. The proposed new EU chemicals policy could require a significant increase in testing for chemical products. These tests could be very cost intensive and time consuming and could lead to increased costs and reduced operating margins for BASF's chemical products.

In addition, the EU Directive on Emissions Trading could reduce BASF's growth opportunities in Europe. Governments have to impose total CO<sub>2</sub> (carbon dioxide) caps on specific energy intensive installations. These caps aim to enable EU member states to meet their Kyoto targets e.g., Germany (21)% and Belgium (7.5)%, based on 1990 carbon dioxide emission levels. Further details will be defined by the National Allocation Plans (NAPs), which must be submitted to the EU Commission for acknowledgment by March 2004. These NAPs might entail disadvantages for our European sites. Compliance with the directive could require significant capital expenditures by BASF and could limit BASF's ability to pursue its growth strategy.

# BASF is exposed to foreign currency and interest rate risks

BASF conducts a significant portion of its operations outside of Europe and therefore is exposed to risks associated with the fluctuations of foreign currencies. BASF is subject to interest rate risks in the ordinary course of its business.

Risk management is centralized at BASF Aktiengesellschaft and BASF Group companies designated for that purpose, and BASF hedges against financial risks through derivative instruments such as forward exchange contracts, currency options, interest rate and currency swaps and combined instruments. There can be no assurance, however, that BASF's hedging strategy will be effective and that foreign currency and interest rate fluctuations will not adversely affect BASF's results of operations. See "Item 11. Quantitative and Qualitative Disclosures About Market Risk" and Note 29 to the Consolidated Financial Statements for additional information about the nominal value and market value of BASF's financial instruments.

BASF is also subject to credit risks to the extent that counterparties to transactions may not be able to perform their contractual obligations. Although BASF aims to limit the risk of default by entering into transactions only with top-rated financial institutions and by adhering to fixed limits, defaults with respect to significant contracts may adversely affect BASF's operating results.

Significant variations in the cost and availability of raw materials, energy, precursors and intermediates may adversely affect BASF's operating results

BASF uses significant amounts of raw materials and energy in manufacturing a wide variety of products. Significant variations in the cost and availability of raw materials, energy, precursors and intermediates may adversely affect BASF's operating results. To control these price and supply risks, BASF purchases raw materials through negotiated long-term contracts, with prices that periodically float. Additionally required purchases on spot markets are made using optimized procedures. Supply contracts for the most strategically important raw materials are negotiated and concluded centrally for the BASF Group. For more information, see "Item 4. Information on the Company Supplies and Raw Materials."

BASF's individual business units constantly monitor changes in their relevant supply markets and take action to minimize their risks accordingly.

# Cyclicality may adversely affect BASF's operating margins

The results of BASF's Chemicals, Plastics and Performance Products segments are affected by cyclicality in various industries in which they operate, including the automotive, construction, electric and electronics as well as the textile industries. BASF's strategy to deal with these risks is to constantly expand its cyclically resilient businesses, such as agrochemicals, active ingredients for pharmaceuticals and nutrition, and trading and transmission of natural gas. In cyclical businesses, BASF seeks to maintain cost leadership.

# The results of BASF's crop protection business are dependent on weather conditions and can be affected by local and regional economic circumstances

Sales volumes of BASF's crop protection products are subject to the agricultural sector's dependency on weather conditions. Adverse weather conditions in a particular growing region could materially adversely affect the results of operations of BASF's crop protection business. Demand for crop protection products is further influenced by the agricultural policies of governments and multinational organizations. In addition, BASF's crop protection products typically are sold pursuant to contracts with long payment terms. These extended payment periods make BASF's crop protection business susceptible to losses from receivables during local or regional economic crises and may adversely affect BASF's operating results.

## Exploration risk may adversely affect the business of BASF's Oil & Gas segment

The future growth of the exploration and production unit of our Oil & Gas segment is to a large extent dependant on successful findings. The search for new oil and natural gas reserves involves certain geological risks that relate to the availability of hydrocarbon products and the quality thereof. The exploration and production industries are experienced in dealing with these risks diligently. We diversify our risks through a balanced exploration portfolio.

### Failure to develop new products and production technologies may harm BASF's competitive position and operating results

BASF's operating results depend on the development of commercially viable new products and production technologies. BASF devotes substantial resources to research and development. Because of the lengthy development process, technological challenges and intense competition, there can be no assurance that any of the products BASF is currently developing, or may begin to develop in the future, will become market-ready and achieve substantial commercial success.

### Negative developments in equity and bond markets may make extraordinary contributions to pension funds necessary

The fund assets required to cover future pension obligations are actuarially determined using assumptions concerning the expected return on plan assets. The plan assets are partially comprised of equity investments. Declining returns on equity and bond markets could trigger additional contributions to the pension plan to cover future pension obligations. The amortization of additional contributions, which are deferred as prepaid pension, increase future pension expenses.

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### BASF is dependent upon hiring and retaining highly qualified management and technical personnel

Competition for highly qualified management and technical personnel is intense in the industries in which BASF operates. BASF's future success depends in part on its continued ability to hire, integrate and retain highly-skilled employees.

#### BASF is subject to the risks associated with the use of information technology

BASF is dependent upon technology for the distribution of information within the BASF Group and to customers and suppliers. This information technology is subject to risks associated with defects, errors, failures and computer viruses. To control potential risks relating to information technology, BASF uses the latest hardware and software and has integrated uniform information technology infrastructures, backup systems, replicated databases, virus and access protection, encoding systems and a high degree of internal networking. There can be no assurance, however, that BASF's information technology systems will not fail and cause material disruptions to BASF's business.

#### BASF is subject to security risks

Assessing security risks on a worldwide basis and determining their potential impact on BASF has become an extremely difficult undertaking since the terrorist attacks in the United States. BASF's corporate security is in close contact with local security offices through its group-wide network, and takes controlled precautionary steps with the help of constantly updated security measures and recommendations (e.g., travel restrictions, tighter access controls for production plants, up-dating of rescue and evacuation plans, emergency services, etc.) to protect the company and its employees.

#### Litigation could harm BASF's operating results and cash flows

For further information see "Item 8. Financial Information Legal Proceedings" and Note 27 to the Consolidated Financial Statements.

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#### Item 4. Information on the Company

#### HISTORY AND DEVELOPMENT OF THE COMPANY

BASF Aktiengesellschaft was incorporated as a stock corporation under the laws of the Federal Republic of Germany on January 30, 1952 under the name "Badische Anilin- und Soda-Fabrik AG." In 1973, the company changed its name to BASF Aktiengesellschaft. BASF Aktiengesellschaft's headquarters are located in Ludwigshafen, Germany; its registered office is located at Carl Bosch Strasse 38, 67056 Ludwigshafen, Federal Republic of Germany, telephone 011-49-621-60-0. The company's agent for U.S. federal securities law purposes is BASF Corporation, located at 3000 Continental Drive-North, Mount Olive, New Jersey 07828-1234, telephone (973) 426-2600.

#### **BUSINESS OVERVIEW**

# Introduction

BASF is a transnational chemical company that is comprised of the parent company, BASF Aktiengesellschaft of Ludwigshafen, Germany, and 153 consolidated subsidiaries. The company has customers in more than 160 countries and operates production sites in 41 countries.

For the year ended December 31, 2003, BASF reported sales of €33,361 million, income from operations of €2,658 million, and net income after taxes and minority interests of €910 million. Based on customer location, BASF's activities in Europe accounted for 57.3% of BASF's total sales in 2003; North America (which includes the United States, Mexico and Canada) accounted for 21.5% of sales; the Asia, Pacific Area, Africa region accounted for 15.9% of sales; and South America accounted for 5.3% of sales.

#### Structure

BASF has five separate business segments: Chemicals, Plastics, Performance Products, Agricultural Products & Nutrition and Oil & Gas. These business segments encompass BASF's 12 operating divisions. For financial reporting purposes, the two operating divisions of BASF's Agricultural Products & Nutrition business segment are separate reportable operating segments: Agricultural Products and Fine Chemicals. Major recent acquisitions and divestitures include the following: BASF purchased the worldwide engineering plastics business of Honeywell International, Morris Township, New Jersey and sold its worldwide nylon fibers business to Honeywell on May 1, 2003. The Plastics and Fibers segment was thereafter renamed Plastics. BASF acquired the insecticide fipronil, and certain fungicides for seed treatment from Bayer CropScience on March 21, 2003.

BASF's business segments are linked with what is referred to as the "Verbund" structure. Verbund loosely translates as "integration", but the meaning encompasses far more than what is traditionally associated with backward or forward integration. In production processes, BASF does not simply look forward and backward to find potential efficiencies, but rather examines every input and every output of these processes. At Verbund sites BASF uses byproducts of chemical reactions that might otherwise have to be disposed of, as raw materials for other processes. In addition, many chemical processes give off heat energy, which BASF converts into steam and then uses to drive other processes within a Verbund site. This allows our Verbund sites to consume less fossil fuel than would otherwise be required. The closely linked plants at a Verbund site also allow the use of pipelines to transport intermediate products, instead of railcars, barges or trucks, thus resulting in further savings. By

reusing byproducts and residual materials, using energy and other raw materials efficiently, and keeping the distances that substances need to be transported to a minimum, BASF reduces the impact on the environment and saves money. In addition to production, this concept is applied to other areas; from R&D to purchasing to customer connections, the advantages of Verbund are applied throughout BASF.

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### **Group Strategy**

In response to the evolving global chemical industry, BASF announced in December 2003 a renewed strategy: BASF 2015. As an evolution of BASF's previous strategy, four strategic guidelines, along with a new logo and a new slogan ("BASF: The Chemical Company") were introduced. The new strategic guidelines; earning a premium on our cost of capital, helping our customers to be successful, forming the best team in the industry, and ensuring sustainable development, will guide BASF's business in the future. As the world's largest chemical company, based on sales of €33,361 million in 2003, BASF aims to actively capitalize both on the structural and technological changes that will affect the global chemical industry, and economy as a whole over the next decade.

#### Earning a premium on our cost of capital

BASF's measures its performance based on earnings before interest and taxes (EBIT) minus cost of capital employed. The expected cost of capital for the year 2004 is 10% before taxes. EBIT after cost of capital will also be used as a key performance indicator for our divisions.

### Helping BASF's customers be successful

BASF aims to offer tailor-made solutions for our customers' problems and thereby be the partner of choice for specialty products. In order to do this we must understand our customer's businesses as well as we understand our own. By starting to cooperate with the customer at a very early stage in the product development process, and also continuing cooperation in the further improvement of established products, applications and processes, we can ensure our own success.

BASF seeks to offer our standard products reliably, in a defined quality, and at an appropriate price. To be profitable in this area we need highly efficient and lean structures and the lowest manufacturing costs for our products. We ensure this by using cost-efficient raw material purchasing, innovative production methods and intelligent marketing approaches.

#### Forming the best team in the industry

Attracting and developing the best talent is a critical success factor. BASF considers its committed and skilled employees to be one of the company's particular strengths and also believes the company benefits from the national and cultural diversity of its staff. Furthermore, BASF supports teamwork and believes it has an impact in particular on the effectiveness of the company's research and development activities.

### Ensuring sustainable development

For BASF, sustainable development means combining business success, environmental protection and social responsibility. Our successful eco-efficiency analysis is a good example. With it we can show which products and processes are superior from environmental as well as economic viewpoints. This is becoming increasingly important to our customers and partners and gives us a competitive advantage in the market. BASF further demonstrates its commitment to sustainable development by setting long-term environmental goals for itself, such as a 40% reduction of air pollution, and a 60% reduction of organic substances to water by 2012. BASF also takes pride in its membership in the Dow Jones Sustainability World Index for the third year running.

### Continuing with proven strategies

BASF considers these new guidelines to be a refinement of our existing strategies, and not a revolutionary change of direction. Elements of BASF's existing strategies therefore remain in place.

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Specific plans for achieving our goals, in particular earning a premium on our cost of capital, include the following:

# Focusing resources on promising business areas

BASF's financial yardstick, EBIT after cost of capital will guide its selection of areas in which to invest its resources. To expand our business portfolio profitably in the next decade and beyond, BASF will exploit the commercial benefits of its innovations, expand manufacturing capacities for its most profitable products and actively manage its portfolio.

BASF discontinues business activities that are unlikely to show long-term profitability and acquires innovative businesses with a high potential for growth. Between 1994 and 2003, BASF sold businesses, which at the time of their divestiture, generated sales valued at approximately  $\in$ 10.5 billion. During the same period, the company acquired businesses, which at the time of their acquisition, generated sales valued at approximately  $\in$ 10 billion. BASF also enters into strategic alliances with the aim of achieving profitable growth in our key businesses and value-adding chains.

# Enhancing BASF's long-term competitiveness

BASF believes that cost leadership is crucial to the company's long-term competitiveness. To achieve this, BASF relies on both technological advances in its production processes, and the inherent efficiency in its integrated large-scale plants to maintain high operational efficiency. BASF relies on the technology platforms in its research and development units to develop and implement process and product innovations effectively.

BASF's goal is to operate the most competitive sites in the chemical industry. BASF believes that to continue to secure its long-term performance in the chemicals business, it must use the highly integrated nature of its major manufacturing sites (Verbund sites) as effectively and extensively as possible while consolidating the company's portfolio of production sites. Where appropriate, BASF capitalizes on the cost advantages of its Verbund structures by building new plants at existing Verbund sites or by building new Verbund sites such as those in Nanjing, China, and Kuantan, Malaysia. However, for customers who place a high value on being served locally, BASF can gain a competitive advantage by operating regional sites for manufacturing customized products.

BASF's marketing and sales competence and its access to competitively-priced raw materials, energy and precursors are also of strategic importance. Where necessary, BASF ensures access by using its technological and market strength to enter into partnerships and alliances with strong global or regional partners.

BASF continuously seeks to reduce costs, especially those relating to our standard products. At our Ludwigshafen site alone, BASF aims to eliminate €450 million in annual costs by 2005 as part of the Ludwigshafen Site Concept. To this end BASF has introduced a series of optimization measures for raw materials, energy consumption, processes and personnel at its most important Verbund site in Ludwigshafen, Germany. By the end of 2003 BASF had already made changes projected to save €100 million annually.

### Investing in growth markets

BASF focuses its resources on expanding selected businesses in specific regions. Building production capacities in growth markets is a crucial element of BASF's strategy, as it allows the company to supply regional markets locally. Local production also increases the company's flexibility and reduces the risks posed by temporary currency fluctuations and weak regional growth.

BASF estimates that by 2010 the chemical market in Asia excluding Japan will be approximately as large as the market for chemicals in Europe. Asia is therefore a key market for BASF. The company

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aims to establish itself quickly as one of the most important chemical manufacturers in this market. In Europe and North America, BASF is concentrating its resources on growth markets in which the company believes it has competitive advantages.

BASF aims to be among the top three competitors in the markets it serves. The company already derives more than two-thirds of its sales from product groups in which it is one of the top three suppliers, and it aims to further increase this proportion.

### **Segment Overview**

BASF's Chemicals segment is one of the largest chemical producers in the world based on sales. The Chemicals segment produces a wide range of products, from basic petrochemicals and inorganic chemicals to higher-value intermediates, allowing BASF to exploit fully the benefits of its Verbund approach to integration. Key information is provided in the following table:

		2003	2002 (euros in millions)			2001
Sales to third parties		€5,752		€5,317		€4,494
Percentage of total BASF						
sales		17%		17%		14%
Intersegmental transfers		€2,680		€2,598		€2,452
Income from operations	€	393	€	635	€	362
Capital expenditures on tangible and intangible						
assets	€	527	€	495	€	929

The Chemicals segment produces a wide variety of chemicals that are sold to a multitude of industries including the chemical, construction, automotive, electrical, electronics, detergents, colorants, coatings, health and nutrition industries.

The Chemicals segment exemplifies the benefits of BASF's Verbund approach to integration because its divisions both intensively consume and manufacture products along the company's core value-adding chains. Virtually all products that the segment sells to external customers are produced within this integrated network. Although most of the segment's sales are to external customers, 31.8% of the segment's total sales are intersegmental transfers to other BASF operations for the manufacture of higher-value products. The products manufactured for captive use include many basic and intermediate chemicals.

#### **Segment Strategy**

The Chemicals Segment represents the foundation for BASF's Verbund approach to integration of chemical production. It focuses on the supply of cost-efficient standard chemicals for internal demand and on offering a broad range of intermediate and higher-value products for external customers. Success factors for the chemicals segment in a competitive environment are cost leadership, including competitively priced raw materials, economies of scale, leading technology and efficient production processes. The high and steady internal demand for the basic chemical building blocks produced by the Chemicals segment ensures a high capacity utilization of BASF's world-scale plants, e.g., steam crackers, ammonia plants, etc. BASF's capital expenditures and research and development efforts are focused on building world-scale plants, as well as on developing new technologies, improved processes and new products.

The Chemicals segment's global strategy is to maintain its leading market position in Europe, improve its cost structure in North America, and expand its operations in Asia. In Europe, BASF conducted scheduled upgrades for several production plants. In 2003, parts of the existing production plants for chlorine in Ludwigshafen, Germany, were modernized; changing the process to the more cost-efficient membrane process. Also, the capacity for ethylene oxide was increased in Ludwigshafen.

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In North America, the Chemicals segment improved its production structure with the completion of the world's largest naphtha steam cracker in Port Arthur, Texas, at the end of 2001. Operated in conjunction with its 40% partner, ATOFINA S.A, this steam cracker supplies propylene, ethylene and other products to BASF's Verbund sites in Geismar, Louisiana, and Freeport, Texas. In 2003, the mechanical construction of the  $C_4$  complex, financed jointly by BASF and its partners ATOFINA S.A. and Shell, was completed. The  $C_4$  complex includes an extraction unit for butadiene, an inalkylation, as well as a metathesis unit. The latter will produce an additional 300,000 tons of propylene per year. The  $C_4$  complex is integrated into the steam cracker in Port Arthur, Texas and is planned to start operations by the end of the first quarter 2004. The closure of two out of three ethylene oxide plants in 2002 and the capacity expansion of the remaining plant in Geismar, Louisiana, in 2003 improve BASF's cost structure by optimizing economies of scale.

In Asia, BASF has a number of major projects underway. These include the expansion of the Verbund site in Kuantan, Malaysia with our joint venture partner PETRONAS. BASF began manufacturing at the site in mid-2000. During 2003, BASF completed construction of a new butanediole complex in Kuantan, Malaysia. The output of this plant will be a precursor for our new polybutyleneterephthalate (PBT) plant, which we are constructing with our joint venture partner Toray. BASF is also constructing a new Verbund site in Nanjing, China with our joint

venture partner Sinopec. The construction work is well in progress and proceeding according to schedule. BASF expects plants at the Nanjing site to begin operations in 2005. In addition, in 2003 BASF started the construction of a new plant for tetrahydrofuran (THF) and polytetrahydrofuran (PolyTHF®) in Caojing, China.

In 2003, the Chemicals segment invested approximately epsilon 108 million in research and development. Research activities are focused on improving value-adding production chains that serve the segment and on developing higher-value products. BASF is developing new products and production processes, in particular for organic and inorganic intermediates and industrial chemicals.

The main capital expenditure projects of the Chemicals segment currently include:

Location		Projected Annual Capacity at Completion of Project	Projected Start-Up-of			
Caojing, China	<b>Project</b> Tetrahydrofuran/ polytetrahydrofurn	(metric tons) 80,000/ 60,000	Operations 2005			
Nanjing, China	Integrated production site major products include:	(2)	2005			
	ethylene	600,000				
	ethylene glycol	300,000				
	aromatics	300,000				
	oxo alcohols	250,000				
	organic aides	80,000				
Port Arthur, Texas	Butadiene	410,000 (1)	2004			

(1) Conducted through a joint venture between Shell Chemical Company (60%), BASF (24%) and ATOFINA S.A. (16%) (capacity reflects total joint venture capacity).

(2) Conducted through a joint venture between Sinopec (50%) and BASF (50%) (capacity reflects total joint venture capacity).

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## **Inorganics**

# Overview

BASF's Inorganics division sells approximately 750 products of which approximately 55% are allocated for captive use. This allows BASF's other divisions to benefit from reduced energy, transportation and infrastructure costs and from improved efficiencies in purchasing and logistics. These internal transfers are based on market prices, and include large amounts of chlorine, sodium hydroxide, ammonia, formaldehyde, methanol and nitric acid as startup materials to create higher-value products. This captive use within BASF provides steady demand that helps maintain high capacity utilization rates at the division's production plants. The remaining amount is sold to external customers worldwide in a broad range of industries.

The principal raw materials used in the Inorganics division are natural gas, sulfur and salt. The division purchases approximately 30% of its raw materials from other BASF operations. Natural gas, the main raw material, is acquired through BASF's joint venture WINGAS GmbH. All other principal raw materials are purchased from external sources. BASF does not rely on any dominant supplier for the raw materials of its Inorganics division.

The most important production site for the Inorganics division is BASF's Verbund site in Ludwigshafen, Germany, where the division produces its entire range of products. The division also produces basic inorganic chemicals such as ammonia, formaldehyde, nitric acid and sulfuric acid at the company's Verbund site in Antwerp, Belgium.

In September 2003 BASF has completed the acquisition of the Callery Chemical Division of Mine Safety Appliances Company. The acquisition includes Callery's production site in Evans City, Pennsylvania. The transaction broadens the Inorganics division's portfolio in the field of high margin inorganic specialties such as alcoholates as well as boron and potassium specialties. Moreover the acquisition supports an expansion into the important non-cyclical life science markets. Offering customers inorganic specialties and innovative products, especially in the areas of electronic grade chemicals, catalysts and powder injection molding products allows BASF to maintain a competitive edge and thus contributes to division's profitability. BASF aims to expand its business in inorganic specialties and catalysts for which the company can obtain higher margins.

The Inorganics division's sales to third parties were €738 million in 2003.

#### **Products**

The Inorganics division consists of four major product lines:

#### Inorganic Specialties and Electronic Grade Chemicals

BASF offers a wide range of inorganic specialties which includes carbonyl iron powder, hydroxylamine free base, hydroxylammonium sulfate, boron trifluoride and BASF's innovative Catamold® line of products for powder injection molding of metal and ceramic components. The Catamold® line is especially suited for manufacturing tiny, intricate devices such as watch casings and orthodontic appliances. BASF sells these products globally to manufacturers in the automotive, construction and medical sectors, among other industries. BASF also produces some inorganic specialties in electronic grade, such as hydroxylamine free base, for use in manufacturing semiconductors, light-emitting diodes, flat screens and plasma screens. The strategic goal for inorganic specialties is the extension of our product portfolio, which shall be achieved by internal growth and targeted acquisitions.

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# Inorganic Chemicals

BASF produces inorganic chemicals through value-adding chains of production based on nitrogen, sulfur and sodium chloride. Some of these are starting materials for superabsorbers, fertilizers, and other high-value chemicals. The products range from basic chemicals such as chlorine, sodium hydroxide, nitric acid and sulfuric acid to inorganic salts such as sodium and potassium alcoholates to ammonium salts. More than half of these products are for captive use within BASF's Verbund. The remaining products are sold primarily to other chemical companies. The strategic goal is to guarantee the BASF group a cost-effective supply of basic inorganic chemicals.

#### Glues and Impregnating Resins

BASF offers a wide variety of tailor-made, wood-to-wood adhesives. These adhesives are used to bind together the particles, fibers and strands found in all types of particleboards, and are also used for surface bonding of wooden components. In addition, BASF produces impregnating resins, which are used to manufacture decorative paper and laminated flooring. BASF is also a producer of glues and impregnating resin raw materials such as ammonia, formaldehyde, methanol, urea and melamine. Europe is the primary market for this group of products. The strategic goal for the product line is profitable growth through new products developed in cooperation with selected customers and through an increased global presence with high margin specialties, particularly in Asia.

### **Catalysts**

Catalysts are substances that are frequently added to chemical processes to facilitate the target reaction. Developing and manufacturing catalysts plays an important role in BASF's strategy to protect and expand its technological leadership because catalysts often help increase product yields, and reduce energy usage. BASF's catalysts are used in internal processes and are also sold to customers around the world. The strategic goal for our catalyst business is to grow faster than the chemical industry average, with high margin products.

The production capacities as of December 31, 2003 for the Inorganics division's major products are as follows:

Product	<b>Annual Production Capacity</b>		
Ammonia	(metric tons) 1,255,000	/*/ /*/ /*/ /*/	Primary Applications Fertilizers Glues and impregnating resins Dyestuffs Animal nutrition Fiber products
Chlorine	360,000	/*/ /*/ /*/	Plastics Solvents Inorganic salts
Formaldehyde condensation products Formaldehyde	750,000 510,000	/*/ /*/ /*/	Glues and impregnating resins Glues and impregnating resins Solvents
Hydroxylamine free base 50% aqueous solution	7,000	/*/	Semiconductors and treatment of metal surfaces
Methanol	450,000	/*/ /*/ /*/ /*/	Glues and impregnating resins Chemical intermediates Solvents Vitamins
Melamine	65,000	/*/	Glues and impregnating resins
Sulfuric acid and oleum	720,000	/*/	Fiber products
Sulfur dioxide	150,000	/*/	Bleaching and reducing agents
Sodium hydroxide	360,000	/*/	Chemicals
Urea	545,000	/*/ /*/	Fertilizers Glues and impregnating resins

### Markets and Distribution

In 2003, Europe accounted for 79% of the Inorganics division's sales to external customers; North America for 9%; South America for 2%; and the Asia, Pacific Area, Africa region for 10%.

The Inorganics division competes on the basis of strong customer relationships, comprehensive product service and price. In the market for specialty products, the division also competes based on its ability to offer innovative products, such as catalysts. The Inorganics division sells its products primarily through BASF's own sales force.

The Inorganics division's main competitors include ATOFINA S.A., Norsk Hydro and Gentek Inc. In the market for catalysts, the division?s main competitors include Süd-Chemie AG, Criterion Catalyst & Technology Company and Procatalyse S.A., while in the market for glues and impregnating resins, Nordkemi Oy and ATOFINA S.A. are among BASF?s competitors.

#### Petrochemicals

#### Overview

The Petrochemicals division sells more than 200 different products and represents the first step in BASF's Verbund approach to integration for the company's petrochemical-based, high-value products. The principal raw materials used in this division are naphtha and natural gas. The Petrochemicals division purchases approximately 10% of its raw materials from other BASF operations, the majority of which is natural gas acquired from WINGAS GmbH. All other principal raw materials are bought from external sources. BASF does not rely on any dominant supplier for the raw materials of the Petrochemicals division.

The Petrochemicals division's principal products include the basic building blocks of petrochemicals, which are produced primarily in steam crackers. In a steam cracker, steam is used to crack naphtha mainly into ethylene and propylene. Other materials produced in this process include aromatics such as benzene, and  $C_4$  cuts (a mixture of  $C_4$  hydrocarbons) a source of butadiene, isobutene and n-butenes. BASF also produces acetylene a chemical based on natural gas and provides industrial gases for consumption at BASF's Verbund sites in Ludwigshafen, Germany, and Antwerp, Belgium.

The division's products, which are used internally in BASF's value-adding chains of production, include large amounts of ethylene, propylene, butadiene, benzene, acetylene, oxo alcohols, phthalic anhydride, ethylene oxide, ethylene glycols, propylene oxide, propylene glycol and industrial gases. This captive use within BASF provides steady demand that helps maintain high capacity utilization rates at the division's production plants.

In Europe, BASF operates steam crackers in Ludwigshafen, Germany, and Antwerp, Belgium. Although the steam crackers mainly supply products for captive use within the company, BASF maintains positions in the merchant markets for ethylene to ensure high capacity utilization. Since the end of 2001, BASF and its 40% partner ATOFINA S.A. have run a steam cracker at ATOFINA's refinery located in Port Arthur, Texas, with an annual production capacity of 920,000 metric tons of ethylene and 550,000 metric tons of propylene. It supplies olefins and aromatics to BASF's Verbund sites in Geismar, Louisiana, and Freeport, Texas.

In Asia, the Petrochemicals division is expanding its operations. In Nanjing, China, a steam cracker and several downstream production facilities are expected to start operations in 2005.

The Petrochemicals division's sales to third parties were €3,264 million in 2003.

#### **Products**

The following are the Petrochemicals division's main product lines:

# Cracker Products

BASF produces the entire range of cracker products from ethylene and propylene to benzene and  $C_4$  cuts. Of these, propylene is the most important starting product for BASF's value-adding chains of production in petrochemicals. Benzene is used captively both in Ludwigshafen and Antwerp, while the residues from benzene extraction are sold as gasoline components. Butadiene is used captively to produce dispersions and ABS (acrylonitrile-butadiene-styrene) and is also sold in the merchant market. Isobutene (a  $C_4$  hydrocarbon) serves as the starting material for the polyisobutene value-adding chain of gasoline additives as well as the basic building block in vitamin synthesis. In Europe, all n-butenes are used in the synthesis of plasticizers and detergent alcohols. Higher olefins are marketed to the adhesives industry.

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### Industrial Gases

These products include industrial gases such as hydrogen, carbon monoxide and oxygen and are largely for captive use within BASF to manufacture higher-value chemicals.

### Alkylene Oxides and Glycols

Ethylene oxide derived from ethylene is used mainly to produce surfactants, ethanolamines, glycols and glycol ethers. BASF is one of Europe's largest producers of ethylene glycol, a product used in antifreeze in the automotive industry. BASF also supplies ethylene glycol to polyester manufacturers for the production of fibers, films and PET (polyethylene terephthalate) plastic bottles. Propylene oxide is synthesized from propylene and serves as a base for a wide variety of products, including surfactants, hydraulic fluids, solvents and propylene glycol.

## Solvents

BASF offers a wide range of oxygenated, halogen-free solvents that are used to dissolve other chemicals and facilitate chemical reactions. BASF is the world's largest producer of oxo alcohols and is also a major producer of acetates, glycol ethers and glycol ether acetates, as well as the specialty solvents dimethylformamide (DMF), dimethylacetamide (DMAC) and cyclohexanone. BASF sells most of these products globally, primarily to the coatings, pharmaceuticals and cosmetics industries.

### Plasticizers and Plasticizer Raw Materials

BASF manufactures standard and specialty plasticizers, which are used in chemical processes to make rigid plastics flexible. BASF also sells the plasticizer precursor phthalic anhydride for use in dyestuffs and unsaturated polyester resins, and markets plasticizers based on higher alcohols.

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Production capacities as of December 31, 2003 for the major products in the Petrochemicals division are as follows:

Product	Annual Production Capacity		
Ethylene	(metric tons) $2,340,000^{(1)}$	/*/ /*/ /*/ /*/	Primary Applications Plastics Specialty chemicals Solvents Dispersions
Propylene	1,700,000(1)(3)	/*/ /*/ /*/ /*/	Plastics Plasticizers Solvents Specialty chemicals
Benzene	635,000 <sup>(1)</sup>	/*/	Plastics
Acetylene	90,000	/*/ /*/ /*/	Plastics Vitamins Pharmaceuticals
Oxo C <sub>4</sub> alcohols (calculated as butyraldehyde)	1,070,000 <sup>(2)</sup>	/*/ /*/ /*/	Plasticizers Dispersions Solvents
Phthalic anhydride	242,000 <sup>(2)</sup>	/*/ /*/ /*/	Plasticizers Resins Dyestuffs
Higher oxo alcohols	240,000	/*/ /*/	Plasticizers Detergents (ethoxylates)
Plasticizers	455,000 <sup>(2)</sup>	/*/ /*/ /*/	Wire & Cable Film & Sheeting Coated Fabrics

Ethylene oxide	925,000	/*/ /*/	Nonionic surfactants Ethylene glycols
Propylene oxide	125,000	/*/	Nonionic surfactants Propylene glycol
Ethylene glycols	360,000	/*/ /*/	Antifreeze Polyester
Propylene glycol	80,000	/*/ /*/	Unsaturated polyesters, solvents Polyester
Glycol ethers	125,000	/*/	Solvents, brake and hydraulic fluids

- (1)
  Includes the total production capacity conducted through a joint venture between BASF (60%) and ATOFINA S.A. of: Ethylene 920,000 metric tons, Propylene 550,000 metric tons, Benzene 110,00 metric tons.
- (2) Includes the total production capacity conducted through a joint venture between BASF (60%) and PETRONAS of: Oxo C<sub>4</sub> alcohols 250,000 metric tons, Phthalic anhydride 40,000 metric tons, Plasticizers 100,00 metric tons.
- (3) Includes the total production capacity conducted through a joint venture between BASF (51%) and Sonatrach of: Propylene 350,000 metric tons.

#### Markets and Distribution

In 2003, Europe accounted for 48% of the Petrochemicals division's sales to external customers; North America for 44%; South America for 1%; and the Asia, Pacific Area, Africa region for approximately 7%.

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The Petrochemicals division sells products through BASF's own sales force as well as through wholesalers. Specialty chemical and other chemical companies are the primary external customers of this division, and some of the customers are also competitors of BASF. Approximately 40% of the division's sales are to other BASF divisions. The remaining amount is sold to approximately 2,200 customers worldwide.

The Petrochemicals division produces commodities that are subject to strong cyclicality in pricing. Changes in the costs of raw materials have an almost immediate effect on the division's financial performance. Competition in the market is based on strong customer relationships, comprehensive product services and price.

BASF considers Shell Chemicals and BP Chemicals plc; Eastman Chemicals Corp.; Exxon Chemicals Company; The Dow Chemical Co.; SABIC EuroPetrochemicals B.V.; and European Oxo GmbH to be the main competitors in its Petrochemicals division.

### Intermediates

#### Overview

The Intermediates division manufactures approximately 600 products that are sold to around 3,000 customers worldwide. These customers typically purchase the division's chemical products as precursors for their higher-value chemicals. Customers of the Intermediates division are largely active in the manufacture of plastics, polyurethanes, textile fibers, resins, paints, surfactants, colorants, coatings, pharmaceuticals and agricultural products.

The Intermediates division purchases approximately 80% of its feedstock from other BASF operations. The principal raw materials that the division uses are methanol, formaldehyde, acetylene,  $C_4$  aldehyde, acrylonitrile, ammonia, ethylene oxide, hydrogen, carbon monoxide, butane, ethylene and chlorine.

Many of the Intermediates division's products are more resilient to economic cycles than the products in the Chemicals segment's other divisions, and many are the result of multi-step production processes within BASF before intermediates are sold to external customers. The division additionally satisfies high demand within BASF for cost-efficient precursors for the production of agricultural products, pharmaceuticals, paint resins, plastics, adhesives, dyes, pigments and process chemicals for the textile, leather and paper industries. Internal transfers to other BASF operations, in particular of amines, account for approximately 25% of the division's total sales.

The keys to the Intermediates division's success are achieving technological and cost leadership, offering customized products and, increasingly, developing a global production presence. Currently, we are building plants representing a wholly-owned investment for tetrahydrofuran and polytetrahydrofuran (PolyTHF®) in Caojing, China. The plants will utilize BASF's newly developed proprietary technology to convert butane directly to tetrahydrofuran and subsequently to PolyTHF®. This innovative technology will ensure BASF's leading cost position.

The Intermediates division's sales to third parties were €1,750 million in 2003.

#### **Products**

The Intermediates division has three major product areas:

#### Amines

BASF is among the world's top three producers of amines, which are principally used to make detergents and cleaning products, process chemicals and agricultural products as well as pharmaceuticals. BASF offers approximately 140 different amines worldwide. Key products include

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ethanolamines, ethyleneamines, alkylamines, alkylalkanolamines and several specialty and aromatic amines. Amines are sold globally, but Europe is BASF's primary market for these products.

### Diols and Polyalcohols

BASF produces and sells the products of this area globally: BASF is the world's largest manufacturer of 1,4-butanediol, which is a chemical building block for products such as polyesters and polyurethanes. Its derivatives are used to produce products ranging from fibers to paints and include tetrahydrofuran, PolyTHF®, gamma-butyrolactone and N-methylpyrrolidone. The polyalcohols such as 1,6-hexanediol and neopentylglcol (Neol®) are used as raw materials for a wide range of coatings.

# Acids and Specialty Intermediates

This product group is comprised of both commodity acid products and specialty intermediate products. Carbon acids such as formic acid, propionic acid, 2-ethylhexanoic acid and adipic acid can be used to manufacture preservatives for the feed and food industries, as well as auxiliaries for textile and leather applications. The Intermediates division sells these products globally. In contrast, BASF regards the following products as specialty intermediates: Derivatives of phosgene like acid chlorides and chloroformates, glyoxal and its derivatives, glutardialdehyde and various other chemicals such as formamide, triphenylphosphine and several chiral intermediates. These chemicals are often used in the manufacture of paper, polymers, textiles and leather products and are of increasing importance for pharmaceuticals and agricultural products. Europe is BASF's primary market for these products, but BASF has targeted Asia as well as North America for future substantial growth.

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As of December 31, 2003 the production capacities of the major products of the Intermediates division are as follows:

Alkylamines  Alkylamines  190,000  Agricultural products  Pharmaceuticals  Pharmaceuticals  Rubber chemicals  Ethanolamines/ alkylalkanolamines/ ethyleneamines  100,000  P*/ Detergents and cleaning agents  Pharmaceuticals  P*/ Water treatment  P*/ Water treatment  P*/ Agricultural products  P*/ Gas purification  Specialty amines  100,000  P*/ Surfactants  P*/ Rubber industry applications  P*/ Agricultural products  P*/ Agricultural products  P*/ Polyurethane and epoxies  Acid and alkyl chlorides, chloroformates  1,4-Butanediol  575,000(1)(3)  P*/ Plastics  Pharmaceuticals  Polytetrahydrofuran	
alkylalkanolamines/ ethyleneamines  /*/ Water treatment /*/ Agricultural products /*/ Gas purification  Specialty amines  100,000  /*/ Surfactants /*/ Rubber industry applications /*/ Agricultural products /*/ Polyurethane and epoxies  Acid and alkyl chlorides, chloroformates  60,000  /*/ Organic peroxides /*/ Pharmaceuticals  1,4-Butanediol  575,000(1)(3)  /*/ Plastics /*/ Polyurethanes  Polytetrahydrofuran  138,000  /*/ Fibers	
/*/ Rubber industry applications   /*/ Agricultural products   /*/ Polyurethane and epoxies   Acid and alkyl chlorides, chloroformates   60,000   /*/ Organic peroxides   Pharmaceuticals   1,4-Butanediol   575,000 <sup>(1)(3)</sup>   /*/ Plastics   /*/ Polyurethanes   Polytetrahydrofuran   138,000   /*/ Fibers   Fibers   Pharmaceuticals   Polytetrahydrofuran   138,000   /*/ Fibers   Pharmaceuticals   Polytetrahydrofuran   P	3
chloroformates /*/ Pharmaceuticals  1,4-Butanediol 575,000 <sup>(1)(3)</sup> /*/ Plastics /*/ Polyurethanes  Polytetrahydrofuran 138,000 /*/ Fibers	
Polytetrahydrofuran 138,000 /*/ Fibers	
N-Methylpyrrolidone 68,000 /*/ Electronics, solvents	
Glyoxal® (40% solution) 80,000 /*/ Textile resins	
1,6-Hexanediol 42,000 /*/ Plastics /*/ Coating resins	
Formic acid/propionic acid 180,000/ /*/ Preservatives 80,000	
Formamide 100,000 /*/ Sequestering agents	
Maleic anhydride 135,000 /*/ Unsaturated polyester resins	
Neopentylglycol (Neol®) 135,000 <sup>(2)</sup> /*/ Coatings	
Trimethylolpropane 20,000 /*/ Coatings	
Chiral intermediates (ChiPros ) 4,500 /*/ Life sciences	

<sup>(1)</sup>Of which 25,000 metric tons through Idemitsu BASF Co. Ltd. a joint venture between Idemitsu Petrochemicals Co. Ltd. and BASF (capacity reflects total joint venture capacity). BASF raised its share from 50 to 67 percent in 2003.

<sup>(2)</sup>Of which 15,000 metric tons through BASF JCIC Neopentylglycol Co. Ltd. a 60-40 joint venture between BASF and Jilin Chemical Industrial Company Ltd. (capacity reflects total joint venture capacity).

Of which 100,000 metric tons per year through BASF PETRONAS Chemicals Sdn. Bhd. a 60-40 joint venture between BASF and PETRONAS (Malaysia).

#### Markets and Distribution

In 2003, Europe accounted for approximately 55% of the Intermediates division's sales to external customers. North and South America together accounted for approximately 20% and the Asia, Pacific

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Area, Africa region for approximately 25%. BASF sells this division's products through its own sales force as well as through distributors.

BASF is among the top three producers worldwide in the main products of its three strategic intermediates' business units. In the amines markets, BASF considers its main competitors to be Air Products Corporation, The Dow Chemical Company and Huntsman Corporation. In BASF's diols and polyalcohols activities, the company's major competitors are respectively: International Specialty Products Inc., Invista Inc., Lyondell Chemical Company, Dairen Chemical Company, Mitsubishi Chemicals Corporation, Eastman Chemical Company and Ube Industries, Ltd. Finally the main competitors in BASF's acids and specialty intermediates business are Sydsvenska Kemi OY, BP Amoco plc and Celanese AG.

#### **PLASTICS**

## **Segment Overview**

BASF is one of the world's leading plastics manufacturers, and offers one of the industry's most comprehensive product ranges. The segment is organized into three divisions: Styrenics, Performance Polymers, and Polyurethanes. On May 1, 2003 BASF took over the worldwide engineering plastics business of Honeywell International, Morris Township, New Jersey and transferred its worldwide nylon fibers business to Honeywell. At the same time the segment was renamed Plastics.

		2003			2002 (euros in millions)		2001	
Sales to third parties		€	8,787		€8,477			€8,185
Percentage of total BASF								
sales		4	26%		26%			25%
Intersegmental transfers	€		541	€	436	€		406
Income from operations	€		296	€	582	€		(2)
Capital expenditures on								
tangible and intangible								
assets	€		539	€	636	€		891

**Segment Strategy** 

BASF's goal is to strengthen its position as one of the leading global competitors in the plastics industry a position which is based primarily on its styrenics, nylon and polyurethane value-adding chains of chemistry.

To achieve this goal, BASF is pursuing the following strategy in this segment:

/\*/

Marketing and selling products more efficiently than competitors in key regional markets: To support this strategic goal,
BASF has set up global sales teams, which are dedicated to specific industry branches.

/\*/

Establishing efficient lowest cost business processes for the standard products: In the standard products business BASF is streamlining its portfolio to include only a limited number of product lines combined with appropriate marketing processes to consistently deliver high-quality products at minimum costs with maximum reliability.

/\*/

*Increasing sales of selected specialty products*: BASF aims to expand its position in the market for specialty products that can be easily derived from the company's value-adding chains of chemistry. These have the potential to generate competitive advantages both for the customers and BASF.

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/\*/

Boosting the efficiency of the company's global production activities: BASF shifts production from older or smaller plants to more efficient world-scale plants, which rely on new technologies and offer substantial economies of scale. In Asia, the company is continuing to expand its production capacities and is building on its well-established base in the region.

/\*/

Working closely with customers in developing new products and applications

/\*/

Using e-commerce more extensively as a distribution channel: BASF's sales through e-commerce channels such as our proprietary PlasticsPortal exceeded €1 billion in 2003. BASF expects sales via these distribution channels will continue increasing in the future.

In 2003, the Plastics segment spent approximately  $\in$ 142 million on research and development activities. These included: improving existing manufacturing processes, developing cost-effective manufacturing alternatives, building partnerships and working together with customers to develop innovative applications and products.

The main capital expenditure projects of the Plastics segment currently include:

Location		Projected Annual Capacity at Completion of project Projec								
	Project	(metric tons)	Start-Up of Operation							
Caojing, China	MDI (diphenylmethane	240,000	2006							
	diisocyanate) TDI (toluene diisocyanate)	160,000	2006							
Yeosu, Korea	MDI expansion	160,000	2004							
Altamira, Mexico	EPS expansion	150,000	3) 2005							
Antwerp, Belgium	Terluran (ABS)	200,000	2004							
Kuantan, Malaysia	Ultradur (PBT)	60,000	2006							

<sup>(1)</sup>Conducted through a joint venture with SINOPEC and the Hua Yi Group of China as well as Huntsman-ICI Polyurethanes and Nippon Polyurethanes (capacity reflects total joint venture capacity of which BASF has a 35% share).

(3)

<sup>(2)</sup>Conducted through a joint venture with SINOPEC and the Hua Yi Group of China (capacity reflects total joint venture capacity of which BASF has a 70% share).

Conducted through the joint venture Polioles S.A. de C.V. (capacity reflects total joint venture capacity of which BASF has a 50% share).

(4) Conducted through a joint venture with Toray (capacity reflects total joint venture capacity of which BASF has a 50% share).

### **Styrenics**

#### Overview

BASF is one of a small number of global producers of styrenics, supplying customers in all major geographic markets of the world. The Styrenics division purchases approximately 40% of its raw materials from within BASF. The division's principal raw materials are benzene, ethylene, butadiene and acrylonitrile. BASF continues to fine-tune Verbund structures at its production sites and to carry out backward integration where appropriate.

BASF believes that cost efficient business processes with an appropriate number of products manufactured in highly competitive world-scale plants are crucial to ensuring the continued competitiveness of its styrenics products. Major projects over the last two years included a repositioning of the standard product portfolio; modernizing the ethyl benzene and styrene plants in Ludwigshafen, Germany, and Antwerp, Belgium; and setting up a joint venture with Shell Eastern Petroleum Pte. Ltd. to bring a world-scale SM/PO (styrene monomer/propylene oxide) plant in Singapore on stream in the second half of 2002. We are consolidating our North American expandable

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polystyrene (EPS) production with the phased closure of our 90,000 ton EPS plant in South Brunswick, New Jersey by the end of 2004, and the transfer of production to our joint venture in Altamira, Mexico.

In Asia, which BASF views as a long-term growth market for the Styrenics division, the company aims to expand its market presence by improving the capacity of existing plants in the region. In Europe, the division is focusing on efficient ethyl benzene and styrene operations and competitive polystyrene production. In North America, BASF is aiming to improve the performance of its polystyrene and styrene copolymers businesses by concentrating its production activities, improving logistics and streamlining its workforce.

The Styrenics division's sales to third parties were €3,626 million in 2003.

#### **Products**

The Styrenics division's key product lines include:

## PS (Polystyrene)

BASF's polystyrene products range from rigid and transparent general-purpose plastics to high impact-resistant grades that customers shape using injection molding, extrusion and blow molding. Styrolux complements BASF's polystyrene product portfolio and combines toughness with transparency.

Primary applications:

/\*/
Packaging

/\*/

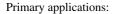
Household appliances

/\*/

Housings for consumer electronics

# EPS (Expandable Polystyrene)

BASF sells expandable polystyrene under the brand name Styropor®. Styropor® is a leading product in the building insulation market. Neopor®, a new product with superior insulation capabilities, has been introduced in the European market. Expandable polystyrene's advantages include heat insulation, high compressive strength, shock absorption, low weight, and moisture resistance.



/\*/
Building insulation

Packaging

ABS (Acrylonitrile-Butadiene-Styrene Copolymers)

Terluran® is the trade name for BASF's top styrene copolymer plastic. It offers superior surface quality, mechanical properties and chemical resistance.

# Primary applications:

/\*/

/\*/
Electrical and electronics equipment
/\*/
Household appliances

Automotive components

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### ASA (Acrylonitrile-Styrene-Acrylate Copolymers)

Luran® S is the trade name for BASF's styrene copolymer plastic modified with rubber to make it resistant to weathering, aging and chemicals.

## Primary applications:

/\*/
Exterior automotive components

/\*/
Sports equipment such as surfboards and boats

/\*/
Electrical and electronical equipment

# SAN (Styrene-Acrylonitrile Copolymers)

Luran® is BASF's trade name for SAN plastic. It is transparent, chemical and dishwasher resistant and offers a high degree of stiffness and resistance to temperature change.

# Primary applications:

/\*/

Household and toiletry items

/\*/
Packaging

/\*/

Office and household equipment

## MABS (Methacrylate-Acrylonitrile-Butadiene-Styrene Copolymer)

Terlux® is the trade name for BASF's MABS plastic. It offers transparency, luster, toughness and resistance to chemicals.

#### Primary applications:

/\*/
Hygiene and cosmetic product containers

/\*/

Medical equipment housings

/\*/

Office equipment housings

## ABS/PA Blend (Blend of Acrylonitrile-Butadiene-Styrene Copolymer and Polyamide)

Terblend® N is the trade name for BASF's blend of plastics that offers a very high degree of toughness, excellent processibility and luster.

### Primary applications:

/\*/
Automotive components

/\*/
Garden equipment

/\*/
Children's toys

# XPS (Extruded Polystyrene)

BASF sells extruded polystyrene under the brand name Styrodur®. It is a green, extruded, rigid polystyrene foam that is made using environmentally friendly carbon dioxide as a blowing agent. Sales of Styrodur®; which offers heat insulation, low water absorption, and compressive strength, are concentrated in Europe.

Primary application: Building insulation

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#### EPP (Expandable Polypropylene)

BASF sells expandable polypropylene, which is often used to make foam components, under the brand name Neopolen® P. Sales are concentrated in Europe and North and South America.

Primary applications:

/\*/
Automotive components

/\*/
Packaging

/\*/
Sports equipment

#### MF (Melamine Resin Foam)

BASF sells melamine resin foam under the brand name Basotect®. It is a flexible foam material that absorbs sound and offers high heat resistance and good flame retardant attributes. The product's primary markets are Europe, the United States and Japan.

# Primary applications:

/\*/
Automotive components

/\*/
Soundproofing materials

/\*/
Household and consumer applications

Production capacities as of December 31, 2003 for the major products in the Styrenics division are as follows:

Product	Annual Production Capacity (metric tons)			
Styrene and styrene-based polymers (styrene monomer, polystyrene, expandable polystyrene, copolymers)	5,756,000 <sup>(1)</sup>			
XPS (extruded polystyrene)	1,250,000(2)			
MF (melamine resin foam)	320,000(2)			

(1) Capacity reflects total joint venture capacities. These include:

/\*/
550,000 metric tons of styrene monomer through a joint venture between BASF (50%) and Shell Nederland Chemie B.V.;

550,000 metric tons of styrene monomer through a joint venture between BASF (50%) and Shell Eastern Petroleum Pte.Ltd;

/\*/
120,000 metric tons of styrene monomer, 140,000 metric tons of polystyrene and 52,000 metric tons of expandable polystyrene through a joint venture between BASF (60%) and Yangzi Petrochemical Corporation; and

57,000 metric tons of expandable polystyrene through a joint venture between BASF (50%) and Alfa Group.

(2) Measured in cubic meters.

# Markets and Distribution

/\*/

/\*/

In 2003, Europe accounted for approximately 46% of the Styrenics division's sales; North America for approximately 19%; the Asia, Pacific Area, Africa region for approximately 30%; and South America for 5%.

The Styrenics division sells products primarily through its own regional sales force, supported by BASF technical and marketing experts. The Styrenics division is increasingly relying on e-commerce (BASF?s PlasticsPortal, EDI and VMI) for distributing its products.

The market for styrenics is global and characterized by intense price competition. Demand for styrenics continues to rise due to overall economic growth in both industrial and emerging markets.

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The principal global competitors of the Styrenics division are The Dow Chemical Company and ATOFINA. The division also competes in North America with Nova Chemical Corporation and in Europe with Enichem. In Asia, BASF competes with other regional competitors, such as Chi Mei and Loyal and LG Chem.

#### **Performance Polymers**

#### Overview

BASF is one of the world's leading producers of engineering plastics and fiber intermediates. In 2003 BASF divested the nylon fibers business to, and purchased the engineering plastics business from, Honeywell International Inc.

Products are sold to more than 2000 customers worldwide, more than 85% of which are engineering plastics customers. This customer base consists largely of high-performance plastic molders and plastic component manufacturers in the automotive, consumer electronics, electrical equipment and packaging industries. These customers often rate product performance and customer support as important, but prices are becoming increasingly critical to customers in choosing a supplier. To further strengthen its market position, particularly in North America, BASF acquired the nylon 6,6 business of Ticona and the technical polymers business of Celanese AG, effective December 31, 2003.

To compete effectively in this market, the Performance Polymers division seeks to increase its preferred supplier status with global customers, many of whom demand collaboration in developing specific plastic applications. The division works with suppliers to automotive manufacturers to develop specific applications for parts such as engine components, airbag housings and electronic connectors.

In Europe and North America, the division is continuing with a restructuring program to improve the division's long-term earnings potential. This includes consolidating its product portfolio by eliminating unprofitable product lines, entering into strategic alliances for its specialty products and streamlining its workforce in these regions. BASF is also expanding the division's activities in Asia, a region to which many customers have relocated operations, to support both regional consumption and exports. The restructuring measures of the last year include the discontinuation of the Ultraform® acetal production at the BASF plant in Theodore, Alabama. This plant was dismantled during the first half of 2003.

The Performance Polymers division's principal raw materials are cyclohexane, ammonia and propylene, which are purchased mostly from external suppliers. BASF does not rely on any dominant supplier for the raw materials of its Performance Polymers division.

The Performance Polymers division's sales to third parties were €2,239 million in 2003.

#### **Products**

The Performance Polymers division offers the following product lines:

### **Engineering Plastics**

PA (Polyamide)

Ultramid®, Capron® and Nypel® (from Honeywell) are the trade names for BASF's plastics based on nylon 6, nylon 6,6 and other copolymers manufactured by BASF. They offer toughness and strength as well as both heat and chemical resistance.

Primary applications:

/\*/

Automotive engine intake manifolds, pedals and engine covers

/\*/

33

/*/	Flame retardant plastics for electrical components such as switches and circuit breakers
/*/	Housings for electrical equipment
/*/	Films for food packaging
PBT (Poi	ybutylene Terephthalate)
Ultradur® is t resistance.	he trade name for BASF's plastic based on PBT. It features high stiffness, strength, dimensional stability and heat and aging
Primary applic	cations:
/*/	Electrical connectors
/*/	Automotive components such as windshield wiper arms
/*/	Housings for automotive transmission components
POM (Po	plyoxymethylene)
Ultraform® is	the trade name for BASF's POM plastic. It offers high stiffness and strength, resilience and low wear.
Primary applic	cations:
/*/	Clips and fasteners
/*/	Speaker grilles
/*/	High-end children's toys
/*/	Mechanical and precision engineering devices such as shafts and gears
PES (Pol	yether Sulfone) and PSU (Polysulfone)
	nd E are the trade names for BASF's PES and PSU plastics. The most important features of Ultrason are stiffness, and and oily substances even at high temperatures. Other important features include electrical insulation properties and ty.
Primary applic	cations:
<b>/</b> */	Automobile oil circulation systems, headlight reflectors and housings

Microwave dishes, infant formula bottles

/\*/

Medical equipment

## Intermediate Products including Caprolactam, Polycaprolactam, Adipic Acid, Adiponitrile and Hexamethylenediamine

Caprolactam forms the basis for manufacturing polycaprolactam, the main precursor for nylon 6. BASF sells a variety of caprolactam products, including caprolactam in its pure form, nylon 6, for use in engineering plastics and Ultramid BS®, a nylon 6-based spinning polymer. Adipic acid, acrylonitrile and hexamethylenediamine form the basis for nylon 6,6. BASF sells a variety of nylon 6,6 products, including adipic acid and hexamethylenediamine in their pure forms, Ultramid A®, which is used for engineering plastics, and Ultramid AS®, a nylon 6,6-based spinning polymer. BASF sells most of these products globally.

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Primary applications include precursors for fibers used in:

/\*/

Carpeting

/\*/

Apparel

/\*/

Upholstery fabrics

Production capacities as of December 31, 2003 for the major products in the Performance Polymers division are as follows:

Product	Annual Production Capacity (metric tons)
Polyamide	650,000
PBT	100,000(1)
POM	40,000
PES and PSU	5,000
Polyamide precursors	1,290,000

(1)

Conducted through a 50-50 joint venture with GE Plastics N.V. (capacity reflects total joint venture capacity).

#### Markets and Distribution

In 2003, Europe accounted for 49% of the Performance Polymers division's sales; North America for 29%; the Asia, Pacific Area, Africa region for 21%; and South America for 1%.

The division's customers for engineering plastics, particularly in the automotive industry, are primarily global companies that demand uniform worldwide standards for products and services in all major markets. BASF sells engineering plastics products primarily through its own regional sales force supported by BASF's technical centers in Germany, the United States and Japan. These centers not only help customers develop applications, but also independently research new markets and applications in which plastics can replace more conventional materials such as metal. In Asia the division is expanding its sales force to build on its solid position in the market.

The markets for caprolactam and the other fiber intermediate products are characterized by cyclicality, price competition and commodity pricing.

The Performance Polymers division is increasingly relying on e-commerce as a channel for distributing its products, and operates its own website; PlasticsPortal.

Major global competitors include: Bayer AG, Celanese AG, E.I. du Pont de Nemours and Company, General Electric Company, DSM N.V., Solutia Inc., and Rhodia.

#### **Polyurethanes**

#### Overview

BASF's Polyurethanes division is one of the world's three largest producers of polyurethanes; important specialty plastics used to produce a wide spectrum of rigid, flexible, foamed and compact components for consumer products.

BASF offers over 3,500 customized polyurethane solutions. These products are often used to make a variety of automotive parts, including bumpers, steering wheels and instrument panels. BASF's polyurethanes can also be found in household goods, such as mattresses and upholstery, and in sports equipment, such as in-line skates and athletic shoes. The fashion industry is increasingly using BASF's polyurethanes, particularly to manufacture synthetic leathers.

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The Polyurethanes division sells its products to customers in two principal ways:

*Polyurethane Basic Materials:* The Polyurethanes division sells individual polyurethane basic materials (isocyanates and polyols) to customers. The customers then apply their own technology to formulate the liquid basic materials so that when combined they will react and solidify into a material with particular properties.

*Polyurethane Systems*: A polyurethane system consists of pre-fabricated, ready-to-use formulations of isocyanates and polyols. The Polyurethanes division sells these specially formulated, tailor-made isocyanates and polyols to customers. When the customer combines them, these liquid chemicals react and solidify into a material that possesses the technical properties specified by the customer.

The Polyurethanes division also sells polyurethane special elastomers, which are specialized end products used mainly in the automotive and electrical industry.

The Polyurethanes division's principal raw materials are toluene, benzene and propylene. The division benefits significantly from BASF's Verbund approach to integration, purchasing approximately 80% of its precursors from other BASF operations. The Polyurethanes division sells the vast majority of its products to external customers.

To build on its strong relationships with customers, the Polyurethanes division is expanding its regional activities, focusing above all on the Asian market. In Yeosu, Korea a new plant for the production of TDI (*Toluene Diisocyanate*) based on new technology went onstream in the third quarter of 2003. For the support of our growth in Asia the expansion of the existing MDI-plant (*Diphenylmethane Diisocyanate*) was commenced, and is expected to be completed in the third quarter of 2004. In Caojing, China, BASF commenced construction of an integrated manufacturing facility for MDI and TDI with its local and international joint venture partners that is scheduled to come onstream in 2006.

For polyurethane systems and special elastomers, strong relationships with leading industry customers are crucial because of the highly individualized nature of these products. To strengthen its relationships with customers, BASF has established a global network of system houses. System houses are production sites that work closely with customers to provide specially formulated products for individual needs. The Polyurethanes division currently has 24 system houses around the world in locations near customers. BASF will continue to establish or acquire more.

The Polyurethanes division's sales to third parties were €2,922 million in 2003.

## Products

The Polyurethanes division's product lines include:

The F	Polyurethanes	division sel	ls basic	material:	s globa	ally t	to customers t	hat mal	ke pol	lyureth	iane pl	astics	by rea	cting	isocyanate	s with	ı poly	yols
-------	---------------	--------------	----------	-----------	---------	--------	----------------	---------	--------	---------	---------	--------	--------	-------	------------	--------	--------	------

Isocyanates MDI (Diphenylmethane Diisocyanate)

MDI is a versatile chemical that can be used to make flexible foams as well as semi-rigid and rigid polyurethane plastics.

Primary applications:

/\*/

Furniture interiors

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/\*/
Automotive components

/\*/
Carpet backings

/\*/
Shoe soles

Isocyanates TDI (Toluene Diisocyanate)

TDI is a chemical used primarily in the manufacture of flexible foams.

Primary applications:

/\*/
Foam cushions for furniture

/\*/
Automotive components

/\*/
Athletic track surfaces

Polyether Polyols

Polyether polyols are combined with isocyanates to make virtually all polyurethane products, other than those made with polyester polyols.

Primary applications:

/\*/
Rigid foams

Flexible foams

Polyester Polyols

Polyester polyols are combined with isocyanates to make primarily semi-rigid polyurethane plastics.

Primary applications:

/\*/

Cable sheathing

/\*/

Shoe soles

#### Polyurethane Systems

BASF's worldwide polyurethane systems group offers tailor-made polyurethane products for a wide variety of applications. BASF develops ready-to-use polyurethane systems for customers, fulfilling customers' specific engineering requirements at its system houses around the world. Automotive OEM (original equipment manufacturer) suppliers comprise a significant customer group for polyurethane systems. OEM suppliers make seats, steering wheels, fenders and dashboards using BASF's polyurethane systems.

# Polyurethane Special Elastomers

BASF sells polyurethane special elastomers, consisting of TPU (thermoplastic polyurethane elastomers) and cellular elastomers, mainly in Europe, South America, North America and Japan.

TPU

BASF sells TPU under the trade name Elastollan®. Elastollan is based on both polyether polyols and polyester polyols. It is supplied in granular form to customers who use it primarily to make flexible plastic cable coverings. Customers for these products are primarily in the automotive and cable and wire industries.

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### Cellular Elastomers

The trade names for BASF's cellular elastomers, or shock-absorbing, rigid plastics, are Cellasto®, Elastocell® and Emdicell®. BASF is the world's largest producer of microcellular polyurethane parts for antivibration applications and sells them, for example, as molded end-products for use as shock absorbers and buffers in the automotive industry.

Production capacities as of December 31, 2003 for the major products in the Polyurethanes division are as follows:

Product	Annual Production Capacity			
Isocyanates	(metric tons) 1,050,000			
Polyols	650,000			
TPU (thermoplastic polyurethane)	45,000			
Propylene oxide <sup>(1)</sup>	500,000(2)			

(1) Only for Polyurethane Application

(2)
Partially conducted through a 50-50 joint venture with Shell Nederland Chemie B.V. and through a 50-50 joint venture with Shell Eastern Petroleum Pte. Ltd. (capacities reflects total joint venture capacities).

#### Markets and Distribution

In 2003, Europe accounted for approximately 42% of the Polyurethanes division's sales; North America for approximately 29%; the Asia, Pacific Area, Africa region for approximately 26%; and South America for approximately 3%.

Global demand for all polyurethane products is expected to continue growing as the global economy continues to expand. The market for polyurethane basic materials is less cyclical than the market for most other standard plastics, primarily because polyurethane basic materials are relatively specialized. Competition in the market for basic materials is based primarily on price, although product quality and technical application assistance are also important to customers.

The markets for polyurethane systems and special elastomers are even less cyclical than those for polyurethane basic materials. Competition in the market for polyurethane systems and special elastomers is based primarily on a supplier's ability to satisfy customers' technical application needs by providing tailor-made formulations of isocyanates and polyols and also on a supplier's ability to accommodate customers' just-in-time manufacturing by delivering customized products quickly and at the appropriate time.

The main competitors of the Polyurethanes division are Bayer AG, The Dow Chemical Company, Huntsman, Lyondell Chemical Company and Shell Chemicals U.K.

#### PERFORMANCE PRODUCTS

#### **Segment Overview**

BASF is a leading global producer of performance chemicals, coatings and functional polymers through its Performance Products segment. This segment produces a broad range of high-value chemicals, formulations and integrated chemical systems that it sells to many global companies in the

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automotive, coatings, oil, paper, packaging, printing, textile, leather, detergent, sanitary care, construction, and chemical industries. Key information is provided in the following table:

		2003	2002 (euros in millions)			2001	
Sales to third parties		€7,633		€8,014		•	€8,154
Percentage of total BASF							
sales		23%		25%			25%
Intersegmental transfers	€	301	€	326	€		322
Income from operations	€	478	€	646	€		99
Capital expenditures on							
tangible and intangible							
assets	€	236	€	288	€		418

The segment's products often represent the final stages in many value-adding chains within BASF's Verbund approach to integration. The key elements of the segment's success are developing products, integrated chemical systems and application technologies tailored to the specific requirements of customers. Establishing and expanding regional manufacturing plants and application development centers also allows us to better serve regional customers.

# **Segment Strategy**

#### Performance Chemicals

The Performance Chemicals division aims primarily to differentiate itself from competitors on the basis of product quality and performance. To compete successfully with low-cost suppliers and new competitors especially from Asia, the division undertook restructuring measures over the past years to improve its cost structures, and focus its capital spending on the most efficient technologies and processes

available. The division aims to further strengthen its position in major markets through close cooperation with key customers. In this division, BASF is intensifying its marketing activities in Asia and North America.

## **Coatings**

The division focuses on four product lines — automotive coatings, automotive refinish coatings, industrial coatings and, for the South American market, decorative paints. The division has developed the "system supplier for coating materials" partnership model, which in combination with a new pricing mechanism contributes to optimizing the quality and cost of automotive finishing, to the mutual benefit of paint suppliers as well as their customers within the automotive industry.

#### Functional Polymers

The Functional Polymers division aims to build on its position as a leading supplier of acrylic acid and its derivatives, to improve its cost and technology leadership, to expand its businesses in all regions and to grow profitably by introducing innovative products. BASF is currently building new plants for acrylic acid and acrylic esters in Nanjing, China, which are expected to be in operation by 2005.

The main capital expenditure projects for the Performance Products segment currently include:

		Projected Annual	
		Capacity at Completion	Projected
Location		of Project	Start-Up-
	Project	(metric tons)	of Project
Nanjing, China	New plant for acrylic monomers	160,000	2005

In 2003, capital expenditures for the Performance Products segment totaled  $\ensuremath{\mathfrak{C}}236$  million. The segment also spent  $\ensuremath{\mathfrak{C}}240$  million on research and development activities in 2003.

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## **Performance Chemicals**

## Overview

BASF is one of the world's largest manufacturers of high-value performance chemicals, which the company sells to over 10,000 customers worldwide in a wide variety of industries including the detergent, printing, coating, leather, automotive, oil, and textile industries.

BASF believes that its Verbund approach to integration gives the Performance Chemicals division an advantage over small and medium-sized companies that lack the cost advantages of integration. The Performance Chemicals division purchases approximately 45% of its raw materials from other BASF operations. The division consumes a multitude of raw materials and has no principal raw materials or dominant suppliers. The Performance Chemicals division sells roughly 90% of its products to external customers.

The Performance Chemicals division is made up of business units, which are each responsible for marketing and selling the division's products to specific industries. BASF views the detergents industry as one of the division's most important markets. The company is one of the largest producers of nonionic surfactants. Surfactants enhance cleansing efficiency and are used for example in household detergents and dishwashing agents as well as in industrial and institutional cleaning applications.

In the business units servicing the pigment, textile and leather industries, the division has adapted its capacity by narrowing its product line, by restructuring and consolidating production sites and by transferring production capacity from Europe to Asia, where the fastest-growing customer base is located.

The Performance Chemicals division's sales to third parties were €3,147 million in 2003.

#### Products

The Performance Chemicals division sells its products globally. The major product groups of the Performance Chemicals division are:

## Pigments and Resins for Coatings and Plastics

The Performance Chemicals division offers organic and inorganic pigments, pigment preparations, non-textile dyes, process chemicals and resins. Resins are film-forming components used in UV (ultraviolet) curing coatings, urethane systems, and melamine based coatings. Pigments are insoluble dry coloring materials for paints, plastics, inks and other special applications. BASF's pigments and resins are used primarily in automotive, decorative, and industrial paint applications, as well as in the plastics industry.

#### Printing Systems

The printing systems product group offers a complete range of commercial inks for different print technologies and plates for flexography and letterpress print processes. BASF offers printing inks for use in the printing industry, to produce print media such as newspapers and magazines, color advertising materials, books and brochures. BASF also sells printing inks for use in the packaging industry as well as pigments for printing inks.

## Isobutene Derivative Chemistry

Isobutene is the starting material for polyisobutene, the most important component for BASF's branded fuel additives. Through its highly reactive polyisobutenes, BASF has established a new standard in the fuel and lubricant additives market. BASF is the only industry supplier with a product

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portfolio spanning low to ultra high molecular polyisobutenes, and is also one of the world's largest manufacturers of polyisobutene derivatives such as polyisobuteneamine.

## **Surfactants**

BASF produces a wide range of nonionic surfactants based on aliphatic alcohols, ethylene and propylene oxide. Such products are used in detergents and cleaners, textile and leather auxiliaries.

## Hydrocyanic Acid Derivative Chemistry

BASF produces several chelating agents based on hydrocyanic acid, which serve as process chemicals in various industries. Applications include pulp manufacturing, electroplating, laundry detergents, cleaners and photographic chemicals.

## Performance Chemicals for Textiles

BASF offers textile and dyeing auxiliaries, pigment preparations for textile printing as well as inks for ink-jet printing technology. BASF's product range covers a wide spectrum of textile applications.

## Leather Dyes and Chemicals

HDI

BASF is one of the world's leading producers of leather chemicals and dyes, producing a full range of products for nearly every aspect of the leather production process.

Production capacities for the major products in the Performance Chemicals division as of December 31, 2003 were:

Product Annual Production Capacity
Organic pigments 34,500 metric tons

Printing inks	200,000 metric tons
Printing plates	1,000,000 square meters
Polyisobutene	100,000 metric tons
Nonionic surfactants	430,000 metric tons

## Markets and Distribution

In 2003, Europe was the Performance Chemicals division's principal market, accounting for 59% of its sales. The Asia and Pacific Area accounted for 20%; North America for 16%; and South America for 5%.

BASF's own regional sales network sells most of the Performance Chemicals division's products. Distributors sell the balance of products, primarily to smaller customers. The Performance Chemicals division's principal competitors vary according to industry.

## Coatings, Plastics and Specialties

BASF considers itself to be among the industry leaders along with Ciba, Clariant and Bayer in supplying pigments, resins, and additives to the coatings, plastics and specialties industries. BASF sells these products primarily in Europe from large production sites in Germany, but also supports its regional marketing activities through production sites in Brazil and China.

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## **Printing Industry**

The primary market for BASF's printing systems products is Europe, but Asian competitors such as DIC/Sun Group are the global market leaders.

#### Automotive and Oil Industry

This business unit sells the division's fuel additives mainly in North America and Europe. BASF's main competitors include Ethyl, Clariant, Shell, and Infineum.

## **Detergents and Formulators**

BASF and Sasol Chemical Industries Ltd., are the leading suppliers of nonionic surfactants to the detergents industry. Other major suppliers include Shell International B.V., and Cognis Corp. In chelating agents, BASF, Akzo Nobel N.V. and The Dow Chemical Company are the worldwide leading suppliers.

## **Textiles**

BASF, Clariant and Ciba are the world's top three producers of performance chemicals for textiles. BASF is concentrating its sales and marketing activities of these products on Asia and Europe.

## <u>Leather</u>

In leather dyes and chemicals, BASF and Clariant are the world's leading producers. Other important competitors include Bayer, TFL Ledertechnik GmbH & Co. KG, Stahl International B.V., and a host of small regional producers. The most important markets for BASF's leather products are Asia, Europe and South America. BASF manufactures these products in 12 countries to best meet the needs of a highly fragmented market comprised primarily of small and mid-sized customers.

## Coatings

#### Overview

BASF is one of the world's leading producers of high-quality coating products, offering innovative and environmentally friendly products for the automotive industry, including both finishes and refinishes, and for particular segments of the industrial coatings market. BASF also sells decorative paints in South America for interior and exterior use in residential and commercial buildings.

BASF's Coatings division provides customers with innovative high-solid, waterborne and powder coating systems that reduce or eliminate solvent emissions and are considered environmentally and economically efficient. BASF sees significant growth opportunities for the zero emission clearcoat SlurryGloss®, which has been launched recently. This innovative technology can be used in existing paint shops and offers an outstanding product performance.

The key to the Coatings division's success is maintaining preferred supplier status with major customers by working with them to develop system solutions, which are tailor-made products and services. These system solutions help the division differentiate its product offerings from those of its competitors and foster lasting relationships with customers. In developing these system solutions, the Coatings division also draws on advances stemming from BASF's research and development activities. Currently, the Coatings division is focusing its research activities on the further development of future technologies for the automotive industry such as coil coatings and on developing environmentally friendly coating technologies with high quality characteristics such as scratch resistance, e.g., ultraviolet (UV) curing and dualcure technologies (the combination of UV and thermal curing). These offer a huge potential for further quality improvements as well as process time reduction.

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Being able to deliver tailor-made products quickly is also important to the division's success. Customers that use automotive and industrial coatings require in particular quick delivery of coatings at specified times to accommodate their just-in-time manufacturing. To satisfy these needs, BASF's Coatings division locates its operations near its customers' production sites.

The Coatings division purchases approximately 15% of its raw materials from other BASF operations. The division's principal raw materials are pigments, solvents, resins and additives. The division does not rely on a dominant supplier. The Coatings division sells all of its products to external customers.

The Coatings division's sales to third parties were €2,015 million in 2003.

## **Products**

The Coatings division's products are sold on a global basis, with the exception of decorative paints, which are only sold in South America. The division has the following product lines:

## Automotive OEM (Original Equipment Manufacturer) Coatings

BASF offers complete automotive coatings solutions and extensive technical support to major vehicle manufacturers. All of the world's leading automobile manufacturers are long-standing customers of BASF.

## Automotive Refinish Coatings

For the refinishing of automobiles and coatings for commercial vehicles, BASF offers topcoat and undercoat materials through coating systems under the well-known brand names Glasurit®, R-M® and Salcomix®. Most of these systems, which are sold to paint distributors and automotive repair and body shops, increasingly use solvent-reducing waterborne coatings as well as high-solid systems.

## **Industrial Coatings**

BASF offers environmentally efficient systems for coating industrial products. Application technologies include powder, liquid, electro-deposition, and coil coatings that are used on household appliances, commercial vehicles, industrial buildings and radiators components. Wood finishes in the furniture and construction industry represent another use for BASF's industrial coatings. BASF is the second largest coil coatings producer.

## **Decorative Paints**

BASF is the leading producer of decorative paints for interior and exterior use in the South American market. BASF's dispersion and building paints are marketed under the Suvinil® trademark and enjoy a high level of customer recognition.

Production capacities as of December 31, 2003 for the major products in the Coatings division are as follows:

Product  Electrodeposition coatings	Annual Production Capacity (metric tons) 210,000
Powder coatings	30,000
Solventborne coatings	400,000
Waterborne coatings	45,000
Waterborne (decorative paints)	320,000
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#### Markets and Distribution

In 2003, Europe accounted for 47% of the Coatings division's sales. North America accounted for 30% and South America for 14%, while the Asia, Pacific Area, Africa region accounted for 9% of the division's sales.

BASF sells products of the Coatings division to customers, particularly those in the automotive industry, primarily through its own sales force. Third-party distributors also sell products of the automotive refinish coatings, industrial coatings and South American decorative paint businesses.

The Coatings division also uses e-commerce as an important distribution channel, in particular for its automotive refinish coatings. In North America, customers of BASF's automotive refinish technologies business can order products online at bodyshopmall.com. For customers in Europe the division has established similar e-commerce portals to sell its Glasurit® and R-M® brands.

Although price is important to the division's customers, competition is also based on the ability of coatings suppliers to collaborate with customers and quickly deliver tailor-made products and applications, particularly to vehicle manufacturers using just-in-time manufacturing. BASF's Suvinil® line of decorative paints competes in South America primarily on the basis of brand recognition, product quality and price.

BASF considers E.I. du Pont de Nemours and Company, PPG Industries, Inc. and Akzo Nobel N.V. to be the primary global competitors of the Coatings division, while Nippon Paint Company Ltd. and Kansai Paint Company Ltd. are considered to be the division's competitors in Asia.

## **Functional Polymers**

#### Overview

BASF's Functional Polymers division is one of the largest producers of acrylic acid and its derivative products, which are mainly superabsorbents and dispersions. Dispersions are used in a multitude of industries, including the manufacture of paper, decorative paints, adhesives, non-woven materials, carpets, fibers and plastics. The Functional Polymers division also manufactures wet-end chemicals for paper production. The most important customers of the Functional Polymers division are the paper, construction, adhesive, sanitary care and coatings industries.

The Functional Polymers division operates cost effective plants in all regions. Most plants are part of the company's Verbund. Approximately 70% of the division's raw materials are purchased from other BASF operations through this Verbund. Such raw materials include styrene, butadiene, oxo alcohols and above all propylene, which is used to produce acrylic acid. The division sells most of its products to external customers, but also sells approximately 10% of its products to other BASF operations.

The Functional Polymers division continues to strengthen its position in Asia, the fastest growing region worldwide. BASF is constructing its second Asian Verbund site in Nanjing, China, where the division will start the production of acrylic acid and its esters by 2005. In China and Indonesia, new capacities for dispersions production will come onstream within the next two years.

The Functional Polymers division's sales to third parties were €2,471 million in 2003.

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## **Products**

The Functional Polymers division sells its products globally. The division has the following four major product groups that are to a significant extent based on acrylic acid and its derivatives:

#### Acrylic Monomers

BASF is the world's largest producer of acrylic monomers, which are sold directly to internal and external customers in the form of acrylic acid, acrylic esters and special acrylics. Acrylic monomers are used as precursors to manufacture dispersions, superabsorbents, detergents, flocculants and fibers for a wide range of industries.

#### Polymer Dispersions for the Adhesives and Construction Industries

BASF's polymers products consist mainly of polymer dispersions for the manufacture of adhesives, paints and finishes, as well as non-woven materials and chemicals for the construction industry. BASF is especially strong in its technical expertise and technology for adhesive raw materials, as well as in dispersions for paints and other coating materials.

## Paper Chemicals

BASF offers the paper industry a comprehensive range of chemical products for many aspects of the paper production process, including the manufacture of untreated paper, paper finishing and wastewater treatment. The Functional Polymers division's product range of paper chemicals consists of paper-processing chemicals, paper dyes and dispersions for paper coating.

## Superabsorbents

BASF sells superabsorbents globally to the personal hygiene industry, which uses these products to manufacture diapers and other sanitary care products.

Production capacities as of December 31, 2003 for the major products of the Functional Polymers division are as follows:

Product	Annual Production Capacity
Acrylic monomers	(metric tons) 850,000 <sup>(1)</sup>
Superabsorbents	305,000

(1) Including the Kuantan plant that is a joint venture between BASF (60%) and PETRONAS (40%) (capacity reflects total joint venture capacity).

## Markets and Distribution

The biggest market for the Functional Polymers division is Europe, which accounted for 49% of the division's sales in 2003. North America accounted for approximately 27%; the Asia, Pacific Area, Africa region for 19%; and South America for 5% of sales in 2003. The Functional Polymers division's strategic goal is to increase market share in rapidly growing markets, especially in Asia.

BASF sells the vast majority of the division's products primarily through its own regional sales network. Some smaller customers purchase products through distributors. Many of the division's products, particularly dispersions, contain up to 50% water. To minimize transportation costs, BASF manufactures these products at local plants and markets and sells them on a regional basis. Acrylic monomers and superabsorbents, however, are distributed globally from production sites in all regions. The largest plants are located at BASF's verbund sites in Ludwigshafen, Germany; Antwerp, Belgium; Freeport, Texas; Kuantan, Malaysia; and from 2005, Nanjing, China.

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The Functional Polymers continues to develop e-commerce as a distribution channel for its products. The division is selling acrylic monomers through Elemica Holding Ltd., an independent business-to-business e-commerce company. The division's participation in WorldAccount, BASF's integrated global extranet platform, is targeted at its customers in the adhesive, construction and paper industries.

Acrylic monomers have commodity-like attributes and can be affected by cyclicality. Other products, particularly dispersions for adhesives, paints and non-wovens; superabsorbents; and paper process chemicals, are relatively resilient to economic cycles and compete primarily on the basis of product innovation and quality.

BASF's main competitor in acrylic monomers and polymers is Rohm and Haas Co. of the United States. The Dow Chemical Company and Hercule are BASF's main competitors in paper chemicals. In the superabsorbents business, BASF's main global competitors are Degussa AG and Nippon Shokubai Co., Ltd.

## AGRICULTURAL PRODUCTS & NUTRITION

#### **Segment Overview**

This segment consists of the Agricultural Products and Fine Chemicals divisions, which are treated as separate reportable operating segments. The segment offers opportunities for high returns and is typically resilient to economic cycles. In addition, the segment includes the activities of BASF Plant Science, which seeks to develop crops with improved properties, such as: greater agricultural efficiency, improved nutrition, and plants that may be used as "green factories." Key information is provided in the following table:

		2003			2002 (euros in millions)			2001	
Agricultural Products									
Sales to third parties	€		3,176	€	2,9	954	€	3.	,478
Percentage of total BASF									
sales			10%			9%			11%
Intersegmental transfers	€		24	€		21	€		30
Income from operations	€		234	€		61	€		18
Capital expenditures on tangible and intangible									
assets	€		1,133	€		88	€		130
Fine Chemicals	€		1,845	€	1.0	970	€	1	,984
Sales to third parties	₹		1,845	€	1,5	970	€	1.	,984
Percentage of total BASF sales			6%			6%			6%
Intersegmental transfers	€		20	€		36	€		29
Income from operations	€		125	€		(6)	€		(210)
Capital expenditures on tangible and intangible						(0)			,===)
assets	€		140	€	]	157	€		199
Pharmaceuticals discontinued operations									

Sales to third parties	€	364
Percentage of total BASF		
sales		1%
Intersegmental transfers	€	5
Income from operations	€	30
Capital expenditures on		
tangible and intangible		
assets	€	20

The Agricultural Products & Nutrition business segment sells its products primarily to customers in the farming, food processing, animal and human nutrition, personal care and pharmaceuticals industries. The segment's products include agricultural products such as fungicides, insecticides and herbicides; and fine chemicals such as vitamins, carotenoids, pharmaceutical active ingredients;

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polymers for pharmaceuticals, cosmetics and human nutrition; aroma chemicals; UV (ultraviolet) filters; amino acids; feed enzymes; and organic acids.

The business segment contributes to BASF's Verbund approach to integration by sourcing a number of precursors from the company's chemical operations and using them to create higher value products. The Fine Chemicals division in particular benefits from efficiencies derived from internally purchasing precursors for manufacturing vitamins and other nutrition products.

## **Segment Strategy**

While each of the divisions in the Agricultural Products & Nutrition business segment faces competition and sets goals particular to its industry, they share the following strategic objectives:

/\*/
maximizing returns from their existing product portfolios,

/\*/
ensuring a steady flow of innovative, profitable and safe products through focused research

ensuring a steady flow of innovative, profitable and safe products through focused research and development as well as an increased number of collaborative efforts and licensing agreements.

Agricultural Products division focuses on meeting the customer needs with innovative products to improve the yields and quality of agricultural crops in attractive market segments. BASF is in a leading position in the significant agricultural markets of Europe, North and South America, and Asia Pacific. With the acquisition of the insecticide Fipronil, and certain fungicides from Bayer CropScience, we have improved this position further. BASF aims to turn innovations from its strong research and development rapidly into market success and aligns its product portfolio and organization to customer needs.

The Fine Chemicals division aims to achieve leading positions in the markets it serves. The division is pursuing this strategy by exploiting economies of scale, developing new production technologies that reduce costs, expanding its global presence, and attaining preferred supplier status with customers. BASF seeks to realize significant growth potential in tailored contract manufacturing under cGMP guidelines for the pharmaceuticals industry by capitalizing on its strengths in R&D, production expertise and backward integration. BASF is continuously building up this business, which is still in its emerging stages.

#### Plant Biotechnology

Plant Biotechnology is one promising technology for the solution to important questions regarding the future: health, nutrition, and the supply of raw materials for a steadily growing world population.

All BASF activities involving plant biotechnology are incorporated in BASF Plant Science. BASF Plant Science coordinates an international research and technology platform with seven sites in four countries in Europe and North America with a staff of about 400. In addition, BASF Plant Science has established numerous complementary cooperations with research institutes, universities and biotechnology companies in Europe and North America. BASF Plant Science has the goal of becoming a leading competitor in the plant biotechnology market and a major supplier to the agricultural and nutritional industry.

The research activities of BASF Plant Science are concentrated in developing more efficient agriculture, improved nutrition and use of plants as "green factories." These include for example plants with a higher level of vitamins or with omega-3 fatty acids that can prevent cardiovascular diseases.

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## **Agricultural Products**

#### Overview

The Agricultural Products division is a leading supplier and marketer of fungicides, insecticides and herbicides. The division's products are used by farmers to improve crop yields and crop quality and by customers for uses in public health, structural/urban pest control, turf and ornamental plants.

Resources are directed at meeting the needs of the high value agricultural markets in Western and Central Europe, North America, Brazil and Japan. The division believes itself to be well positioned for profitable growth; building on a significant presence in core markets, a strong late stage R&D pipeline, and a high share of patent protected products. Profitability of the division is driven by:

/\*/
Highly effective research and development activities

/\*/
New products from its late stage research pipeline or from recent acquisitions

/\*/
Alignment of product and service offering to customers' needs

/\*/
Control of costs, especially through active product portfolio management

/\*/

Effective management of assets, such as management of production facilities to minimize idle capacities

Products recently launched from the research pipeline are the fungicides F 500® and Boscalid. On March 21, 2003, BASF has closed the acquisition of the insecticide Fipronil and certain fungicides for seed treatment from Bayer CropScience.

In mature and in non-core segments the division focuses on streamlining its product portfolio and its operations. In 2001 the division started further consolidation of its product portfolio and expects to significantly reduce complexity, costs, and to further focus resources. As part of the streamlining effort, a number of active ingredients, formulations and articles are being eliminated, phased out or divested. By the end of 2003 the division had eliminated about a third of its active ingredients. Additionally it has divested its global business with the herbicide Acifluorfen and its soil fumigant portfolio (Basamid, Dichloropropene, Metam-Sodium).

Capital expenditures in the Agricultural Products division included mainly optimization measures at several sites as well as a new laboratory building in Limburgerhof, Germany.

#### **Products**

F 500® (pyraclostrobin), a major new fungicidal active ingredient of the strobilurin class of chemistry, has received registration by 2003 for over 30 countries. F 500® controls major plant pathogens from all classes of fungi, and is applied in many crops including cereals, soybeans, grapes, vegetables and fruits. It is highly effective, safe for crops and has a favorable toxicological and ecotoxicity profile. F 500® has been approved for over 100 crops in over 50 indications and is marketed under the brands Comet® and Opera® in most of Europe and South America as well as under the brands of Headline® and Cabrio® in North America since January 2003. Market introduction was negatively impacted by the drought related market decline in Europe. In North and South America, the introduction developed as planned sales exceed our expectations. Assuming a more normal weather patter in Europe, peak sales could surpass our target of €300 million in 2004.

Boscalid, one of the most recent active ingredients from our research, is highly effective for controlling fungal diseases especially in fruits and vegetables. With its broad spectrum of activity and crop uses, Boscalid will become the backbone of our specialty crop business and will complement our strobilurines and other, more mature active ingredients. In 2003 it has received registrations in over

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11 countries for over 100 crops in over 80 indications and has been launched in time for the 2003/04 season.

Fipronil, an active ingredient of the new insecticide chemistry, was acquired from Bayer CropScience effective March 21, 2003. It fills a strategic gap in the insecticides portfolio and puts the Agricultural Products division in a position to strongly participate in ongoing and future shifts in product usage towards more modern insecticides. Furthermore, it strengthens BASF's position in other attractive market segments, such as in public health, structural/urban pest control, turf and ornamental plants. BASF expects to create synergies with its current portfolio, especially in fungicides.

The CLEARFIELD Production System combines herbicide-resistant seeds developed using enhanced plant breeding methods with custom-designed herbicide solutions. CLEARFIELD crops currently being marketed include canola, sunflower, corn, rice and wheat. Because the CLEARFIELD technology does not involve the introduction of genetic material from other sources, it is characterized as non-GMO (genetically modified organisms), offering advantages to the growers for certain markets.

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The following table lists the Agricultural Products division's other major active ingredients, the products containing these actives and the crops and regions they are used in:

nv		<b></b>
Brand Name	Applications	Primary Markets
Bellis®, Cantus®	Canola, Fruits, Ornamentals, Turf, Vegetables, Vines	Europe, North America
Acrobat®, Forum®	Potatoes, Vines	South America, Europe
Delan®	Fruits, Vines	Europe, Asia
Opus®	Cereals, Coffee, Rice, Sugar beets	Europe, South America
Caramba®	Cereals, Flax, Vegetables	Europe, South America
Polyram®	Vines, Potatoes, Fruits, Vegetables	Europe, Asia, South America
Allegro®, Juwel®, Ogam®, Mentor®, Stroby®/Sovran®	Cereals, Grapes, Fruits, Vegetables	Europe, North America
Sportak®	Cereals	Europe
Opera®, Comet®, Headline®,	Cereals, Grapes, Fruits, Vegetables	Europe, North America, South America, South Africa
	Acrobat®, Forum®  Delan®  Opus®  Caramba®  Polyram®  Allegro®, Juwel®, Ogam®, Mentor®, Stroby®/Sovran®  Sportak®	Bellis®, Cantus®  Canola, Fruits, Ornamentals, Turf, Vegetables, Vines  Acrobat®, Forum®  Potatoes, Vines  Delan®  Fruits, Vines  Opus®  Cereals, Coffee, Rice, Sugar beets  Caramba®  Cereals, Flax, Vegetables  Polyram®  Vines, Potatoes, Fruits, Vegetables  Allegro®, Juwel®, Ogam®, Mentor®, Stroby®/Sovran®  Cereals  Cereals

## Insecticides

Alphacypermethrin	Fastac® Mageos®, Contest®	Citrus, Fruits, Vines	Europe, Asia, South America
Chlorphenapyr	Phantom®, Mythic®, Stealth®	Fruits, Vegetables, Cotton, Ornamentals; Non Crop: Termites	North America, Europe, Asia
Fipronil	Regent®, Prince®, Termidor®, Goliath®	Corn, Rice, Structural/Urban Pest Control	North America, Europe, Asia, South America
Terbufos	Counter®	Corn, Sugar beets, Bananas	North America, South America
Herbicides			
Bentazon	Basagran®	Vegetables, Cereals, Potatoes, Rice, Soybeans, Turf, Corn, Flax	North America, South America, Europe, Asia
Dicamba	Banvel®, Clarity®, Distinct®	Corn, Cereals	North America, Europe
Dimethenamid	Frontier®, Guardsman®	Corn, Soybeans	North America, Europe
Dimethenamid-P	Outlook®	Corn, Broadleaf crops	North America
		50	
Imidazolinones	Pivot®, Pursuit®, Lightning®, Odyssey®, Onduty®, Raptor®	Corn Canola, Soybeans	North America, South America, Asia, Europe
Metazachlor	Butisan®, Novall®, Nimbus®	Canola, Vegetables	Europe
Pendimethalin	Stomp®, Prowl®, Herbadox®	Corn, Cereals, Rice, Soybeans, Vegetables	North America, Europe
Picolinafen	Pico®	Cereals	Europe, Asia
Quinclorac	Facet®, Accord®	Rice, Cereals	North America, South America, Asia

## Research and Development

BASF's research and development activities in Agricultural Products cover all three areas of crop protection: fungicides, insecticides and herbicides. The division's research and development is located in Ludwigshafen and Limburgerhof, Germany, and at Research Triangle Park (RTP) in Raleigh, North Carolina. In addition to these global research centers, BASF has a network of experimental and research stations that are located in key markets around the world.

In 2003, research and development spending in the Agricultural Products division was approximately 8% of the division's sales to third parties.

Including recent market introductions, BASF's product pipeline has 13 projects to be launched by 2008. BASF estimates the total peak sales potential of these projects at around €1.6 billion, based on present exchange rates, making it one of the strongest pipelines in the industry:

## **Product Group**

Projects in launch (2002/03)		Uses	<b>Total Peak Sales</b> about €800 million
Pyraclostrobin (F 500®)	Fungicide	Cereals, Soybeans, Vines, Vegetables	
Chlorfenapyr	Insecticide	Termites	
Boscalid	Fungicide	Vines, Fruits, Vegetables	
Projects in development (launch targeted before 2007/08)			about €700 million
Tritosulfuron	Herbicide	Cereals, Corn	
Dimoxystrobin	Fungicide	Cereals	
Orysastrobin*	Fungicide	Rice	
Metrafenone*	Fungicide	Cereals, Vines	
n.n.	Herbicide	Corn	
n.n.	Insecticide	Vegetables, Potatoes	
n.n.	Herbicide	Cereals	
Total			about €1,500 million

International Non-proprietary Name (INN) provisionally approved

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The success of a new active ingredient is driven by its economic, biological or ecological advantages. BASF believes that fungicides and insecticides provide the most attractive targets for its research activities while it sees only few unmet needs in herbicides and has realigned resource allocation accordingly. Development activities are being directed more strongly to high value segments in key markets and for core active ingredients leading to a significant reduction of development spending by 2005. Cost reduction measures in 2003 included the exit of the experimental station in Nelspruit (South Africa) and the research station in Gosport (United Kingdom).

## Markets and Distribution

The Agricultural Products division markets its products globally, focusing on strategic markets. Sales to third parties were €3,176 million in 2003. The following tables show sales by product group and region:

## **Product Group**

2003 Sales

T . ID I C I

(euros in millions)

Fungicides	1,088
Insecticides and other agrochemical products	790
Herbicides	1,298
Regions	

2003 Sales (euros in millions)

Europe	1,447
North America	892
South America	520
Asia/Pacific/Africa	317

BASF has plants for synthesizing active ingredients at BASF's Verbund site in Ludwigshafen and in Schwarzheide, Germany; Hannibal, Missouri; Beaumont, Texas; Tarragona, Spain; Thane, India; and at BASF's Brazilian sites in Guaratinguetá and Resende. Products for final sale are formulated in facilities that are usually located close to the market. The formulating of products is carried out either at BASF plants or together with partners.

The Agricultural Products division delivers high performance products and competes primarily on innovation, product quality and service. BASF directs marketing and sales efforts through multi-staged marketing channels, which include wholesalers and commercial distributors.

The global market for agricultural products is seasonal, since the main markets for these products are in the Northern Hemisphere. Sales are higher in the first and second quarters of the year, when the growing season in North America and Europe is underway. Sales during the second half of the year, which are driven primarily by the main growing season in South America, are lower.

Over the last years, the agrochemical industry has been going through a process of consolidation. As a result, the number of basic suppliers of crop protection products has decreased. BASF considers the main competitors of the Agricultural Products division to be Syngenta AG, Bayer CropScience AG, as well as Monsanto Co., The Dow Chemical Company and E.I. du Pont de Nemours and Company.

BASF forecasts the market for agricultural products to grow in the medium to long term. The main driver is a growing world population, a rising demand for food and feed and the resulting need for more effective agricultural production systems.

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## Governmental Regulation

In most countries, crop protection products (including genetically modified plants) must obtain government regulatory approval prior to marketing. The regulatory framework for crop protection and environmental health products is directed to ensure the protection of the consumer, the applicator and the environment. The strictest standards are applied in the United States, Japan and Western Europe.

It generally takes five to seven years from discovery of a new active ingredient until the dossier is submitted to the appropriate regulatory agency for product approval. The standard time frame for registration of an agricultural product is typically 30 to 36 months.

## **Fine Chemicals**

## Overview

BASF's Fine Chemicals division develops, manufactures and sells more than 1,000 different high-value specialty products to approximately 8,000 customers. The Fine Chemicals division serves steadily growing markets driven by a growing world population with increasing needs in healthcare and lifestyle by being a leading supplier of vitamins; carotenoids; pharmaceutical active ingredients and advanced intermediates; polymers for the pharmaceuticals, cosmetics and human nutrition industries; raw materials for aroma chemicals; UV (ultraviolet light) filters; amino acids; enzymes; non-antibiotic growth promoters; and organic acids for the animal nutrition industry. In all of the division's main product groups BASF is one of the top three suppliers. In the fourth quarter of 2003 we started of our new Vitamin B<sub>2</sub> plant based on proprietary fermentation technology in Gunsan, Korea. With the start of our feed enzyme production planned for late 2005, we will strengthen our leading

position in the animal nutrition business.

The Fine Chemicals division benefits from BASF's Verbund approach to integration by purchasing approximately 35% of its raw materials from other BASF operations. Virtually all of the division's products are sold to external customers.

About 60% of the division's raw material purchases are bulk commodities from external and internal sources, such as nutrients for vitamin premixes; sugar and molasses for lysine and pseudoephedrine production; and urea and acetanhydride for purines. There are currently no restrictions in supply for these commodity products. No single product accounts for more than 4% of our total external purchases of specialty (non-commodity) raw materials.

The key elements of the division's success are establishing a global sales presence and achieving preferred supplier status with major customers, as this status promotes lasting relationships and often generates higher sales volumes. BASF believes that its Fine Chemicals division generally has a good cost position in comparison with its competitors. In the few areas where the division's production costs do not compare favorably with those of competitors, BASF improves processes in existing plants and transfers production capacities from smaller facilities to world-scale plants.

The Fine Chemicals division aims to expand its role as a contract manufacturer for the pharmaceutical industry. We believe the mid- and long-term fundamentals in the pharmaceutical industry remain positive despite the current environment of overcapacities and lower registrations of new chemical entities. We are investing in our own facilities and are considering acquisitions to build a leading position until the end of the decade.

#### **Products**

#### Vitamins

BASF is the second largest vitamins producer worldwide, and vitamins account for approximately one third of sales in the Fine Chemicals division. BASF markets all of the 13 naturally occurring

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vitamins. In six of these vitamins, which include the five most significant vitamins; C, E, A,  $B_2$  and Calpan, BASF has a production position. The Fine Chemicals division sells vitamins mainly to the human and animal nutrition industries. In 2001, BASF acquired the vitamins business of Takeda Chemical Industries Ltd. thereby strengthening it's position in the water-soluble products. The company estimates that as a result of the acquisition it holds around one fourth of the world market for vitamins. The first phase of the investment program is almost completed with important plants (vitamin E,  $B_2$ , precursors) coming onstream recently or scheduled to do so in 2004. The second phase, including an investment in vitamin C, is expected to be completed in 2007. BASF's vitamins sales are evenly divided among Europe, North America and Asia.

## Carotenoids

Carotenoids are nature-identical products that provide certain health benefits and are also used to color foods. This product line includes beta-carotene, canthaxanthine and astaxanthine for the food, feed and nutritional supplement industries for human and animal nutrition. BASF is the world's second largest supplier of carotenoids. More than half of the division's carotenoid sales are in Europe.

## Active Ingredients and Advanced Intermediates

The main products in this category are caffeine, pseudoephedrine, theophylline, ibuprofen and povidone iodine and lately paroxetine and our new isotretinoin. Beverage manufacturers account for approximately 80% of the caffeine demand, and pharmaceutical applications consume the remaining share. Theophylline and pseudoephedrine are used to treat respiratory diseases. Ibuprofen is used in a variety of over-the-counter and prescription products to treat mild to moderate pain. Isotretinoin is the standard for systemic acne therapy, paroxetine represents the lead molecule for the treatment of depression. All of BASF's production sites for these products have cGMP (current good manufacturing practice) certification, the quality standard necessary for approval by regulatory authorities. BASF sells these products worldwide, with the United States being the most important market, followed by Western Europe. BASF is a leading producer worldwide of all the products in this category.

## Contract Manufacturing

BASF offers a range of customized manufacturing and formulation capabilities to the worldwide pharmaceuticals industry. These activities are complemented by flexible, multi-product cGMP plants, in particular at the Minden site in Germany, and BASF's chemical and

biotechnological R&D skill.

# **Polymers**

The Fine Chemicals division sells highly functional polymers for applications in the cosmetics, pharmaceuticals and food industries. In pharmaceuticals, polymers are used as binders, disintegrants, coatings and solvents for the manufacture of finished dosage forms. The cosmetics industry uses polymers mainly in hair care products such as hairsprays, styling mousses, gels and hair conditioners. In the food industry, polymers are applied as filtration aids for beverages such as beer, wine and soft drinks. BASF sells polymers mainly in Europe.

#### Amino Acids

Amino acids are feed additives that serve as an efficient protein source for animal nutrition. An important product is lysine, of which BASF is among the top three producers. The Fine Chemicals division produces lysine at BASF's site in Gunsan, Korea. BASF has a strong foothold in the Asian market for amino acids, with the region accounting for half of the sales for this product group.

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#### Enzymes

Enzymes, which are proteins that function as biochemical catalysts, are used for animal nutrition to improve feed absorption. BASF's enzyme product line includes Natuphos®, Natustarch®, and Natugrain®. As a consequence of DSM's acquisition of Roche's Vitamins and Fine Chemicals Division, the BASF DSM enzyme alliance was terminated in October 2003. BASF has become independent in this field, and having acquired all relevant intellectual property from DSM, will construct its own enzyme production facility. Most of BASF's enzyme sales are divided approximately equally between Europe and North America.

## Organic Acids

Organic acids are used as preservatives for grains and compound feeds and more recently as growth enhancing agents. BASF offers a wide range of organic acid products that suppress the growth of molds and bacteria. BASF is the leading supplier of standard and tailor-made organic acids for the feed industry in Europe and Asia. With Formi® BASF offers the first non-antibiotic growth enhancer, an alternative to antibiotics that are to be banned in animal breeding in Europe as of 2006. Formi® was acquired from Norsk Hydro AS in 2002.

#### Cosmetics Ingredients

Cosmetic ingredients are raw materials for personal care products with the major applications being hair, skin, sun and oral care. The Fine Chemicals division is the world market leader in UV absorbers for cosmetic applications and offers the full range of UVA and UVB absorbers.

## Aroma Chemicals

Aroma chemicals are raw materials for flavor and fragrance compounds that are used in many consumer products industries such as the food, personal care, and the fabrics and home care industries. The new lysmeral plant, which has been onstream since 2002, further strengthens BASF's position as the leading manufacturer of petrochemicals-based aroma chemicals. With the new Citral plant, BASF will also strengthen its position in aroma chemicals and in the fat-soluble vitamins production, in which Citral also serves as the key intermediate. The plant is scheduled to come onstream on time in early 2004.

## Research and Development

The Fine Chemicals division's research and development activities focus on constantly improving BASF's cost position while generating a flow of new products. In 2003, the Fine Chemicals division spent approximately 4% of its consolidated sales on research and development activities, essentially unchanged from 2002.

One third of the Fine Chemicals division's research and development expenses in 2003 was spent on products for the animal nutrition industry. For both the human nutrition and pharmaceuticals business units around 20% was spent. The rest was allocated for applications in the cosmetics ingredients and aroma chemicals sectors.

Variable production costs of biotechnological production processes are reduced through continuous improvement in the bacteria strains and fermentation processes for the amino acid lysine, vitamin  $B_2$  and precursors of vitamin C.

#### Markets and Distribution

The Fine Chemicals division's sales to third parties were €1,845 million in 2003. In 2003, Europe accounted for 45% of the Fine Chemicals division's sales; North America for 25%, the Asia, Pacific

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Area, Africa region for 24%; and South America for 6%. The following table shows the Fine Chemicals division's sales for 2003 by customer industry:

#### **Customer Industry**

Sales (euros in millions)

Animal nutrition	805
Human nutrition	379
Pharmaceuticals	337
Personal care, cosmetics and aroma chemicals	324

The main customers of the Fine Chemicals division are global players in the animal nutrition, human nutrition, pharmaceuticals, personal care and aroma chemical industries. A significant percentage of the division's products are sold in small, specialty volumes and are often tailor-made to meet specific customer specifications.

BASF sells the majority of its fine chemical products through its own sales force. Key account managers are assigned to major customers. Through its sales and marketing departments, BASF works closely with customers to develop systems and solutions as well as new products. BASF also sells its fine chemical products through its global e-commerce platform, WorldAccount.

BASF's competitive position depends to a large extent on its ability to compete on price, product quality and customer service. BASF expects the trend toward globalization and consolidation for both the manufacturing and the consumer industries to continue. The trend toward commoditization for certain fine chemicals, such as vitamins, is also continuing.

BASF considers its main competitors in the animal nutrition area to be DSM, Archer Daniels Midland Co., Novo Nordisk A/S, Adisseo Group, Rhodia S.A., Eisai Co. Ltd. and new entrants from China. In the human nutrition area, BASF's main competitors are DSM of the Netherlands and several Asian companies. In pharmaceutical active ingredients, BASF considers Albemarle Corporation, International Specialty Products Inc. and FMC Corporation of the United States to be its main competitors, as well as a number of Chinese and Indian suppliers. In cosmetics and aroma chemicals, LC United, International Specialty Products, Millennium Specialty Chemicals, National Starch & Chemical Co., Givaudan, Symrise and Kurarai are BASF's main competitors.

## **Governmental Regulation**

BASF's various Fine Chemicals products are subject to regulation by government agencies throughout the world. The primary emphasis of these requirements is to assure the safety and effectiveness of BASF's products. Of particular importance in the United States is the Food and Drug Administration (FDA), which regulates many of BASF's Fine Chemicals products. The FDA oversees the marketing, manufacturing and labeling of cosmetics (e.g., sunscreen agents), pharmaceuticals (e.g., pharmaceutical active ingredients), foods (e.g., dietary supplements, including vitamins) and feeds (e.g., vitamins, carotenoids). The Federal Trade Commission regulates claims made in the advertising of dietary supplements. Animal health products are also regulated in the United States by the United States Department of Agriculture and the Environmental Protection Agency.

In the E.U., similar regulatory systems are established on the national level of different member states as well as on the pan-European government level. Positive lists and negative lists in Europe regulate the usage of various substances in order to ensure consumer safety. Before the substances are added to these lists, they are subject to a rigorous approval procedure.

In countries other than the United States and those of the E.U. in which BASF conducts business, BASF is subject to regulatory and legislative environments that are similar to or sometimes even more restrictive than those described above.

## OIL & GAS

#### **Segment Overview**

BASF conducts the activities of its Oil & Gas segment through its 100% subsidiary Wintershall AG. Wintershall and its affiliated companies are active in two sectors:

## Oil and Natural Gas Exploration and Production

Wintershall searches for and produces oil and natural gas in 10 countries on four continents. Wintershall markets approximately 75% of its crude oil production through its wholly owned subsidiary Wintershall Oil AG of Zug, Switzerland.

## Natural Gas Distribution and Trading

BASF conducts natural gas distribution and trading activities through two joint ventures WINGAS GmbH (WINGAS) and Wintershall Erdgas Handelshaus GmbH (WIEH) in partnership with Gazprom. WINGAS owns and operates a natural gas distribution pipeline system in Germany that is more than 2,000 kilometers in length. The company also owns and operates an underground natural gas storage site, with a working gas capacity of 157 billion cubic feet, making it the largest in Western Europe. WIEH acts exclusively as a trading company, purchasing Russian natural gas and marketing it to WINGAS and Verbundnetz Gas AG (VNG), a transmission and distribution company in eastern Germany in which Wintershall has a 15.8% ownership interest. WIEH also markets Russian natural gas in Central Europe through its Swiss subsidiary Wintershall Erdgas Handelshaus Zug AG (WIEE), Switzerland.

Against the background of progressively more liberalized European markets, WINGAS is expanding its activities beyond the borders of its home market of Germany. In 2003 WINGAS established the distribution company WINGAS Belgium S.p.r.L., and plans to set up a joint venture with Norsk Hydro in the U.K. in 2004. In addition, WINGAS took a 25% stake in HubCo-North West European Hub Service Company (HubCo). HubCo offers international gas-traders a fully integrated hub service at the trading point in Bunde/Emden (Germany).

The Oil & Gas segment sells all of the oil and most of the natural gas it produces to third parties, however WINGAS also supplies BASF with natural gas consumed at BASF's Verbund site in Ludwigshafen, Germany and at other BASF companies. Key information is provided in the table below:

	2003	2002 (euros in millions)	2001
Sales to third parties, net of			
natural gas taxes	€4,791	€4,199	€4,516
Natural gas taxes	504	303	268
Intersegmental transfers	498	363	413
Sales incl. intersegmental			
transfers	5,289	4,562	4,929
Royalties	251	210	312
Sales incl. intersegmental			
transfers, less royalties	5,038	4,352	4,617
Income from operations	1,365	1,210	1,308
Capital expenditures on tangible and intangible			
assets	323	920	229

The Oil and Gas segment's sales to third parties, net of natural gas taxes, accounted for 13.9% of BASF's total sales in 2001 and 13.0% of BASF's total sales in 2002. In 2003, the segment accounted for 14.4% of BASF's total sales.

## **Segment Strategy**

The Oil & Gas segment seeks to increase production of oil and gas by 50% within the current decade and thus strengthening its natural hedge function within the BASF group. This will be

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accomplished by strengthening its exploration activities, developing new fields, optimizing production in existing concessions, and seeking complementary acquisitions. To ensure the company's ongoing competitiveness, Wintershall focuses on the following core regions:



Wintershall's goal is to maintain a ratio of proved reserves to production of approximately 10 years and a suitable portfolio of assets operated by Wintershall and by third parties. Wintershall's strategy for achieving these goals is:

/\*/ Increasing oil and gas production in Germany and the Southern North Sea through further exploration activities and field developments /\*/ Expanding its activities in North Africa to offset the depletion of existing oil reserves and to expand its gas and condensate production /\*/ Using current and future gas production in the core regions mentioned as well as its own gas distribution and marketing expertise as a basis for a "Gas to Europe" concept /\*/ Expanding oil and gas activities in Russia through strategic partnerships such as Wintershall's partnership with Gazprom /\*/ Increasing production of gas from existing and new fields in Argentina in order to meet long-term growing demand for natural gas in the Southern Cone region /\*/ Exploring in new offshore concessions in Brazil and in the Caspian Sea with the goal of establishing new production

In the natural gas marketing and distribution business, WINGAS currently is the third largest natural gas transmission and distribution company in Germany. Ongoing liberalization of the European natural gas market requires natural gas distributors to give third parties access to their pipelines. This creates significant growth opportunities for WINGAS, since the company is eligible to transport natural gas through its competitors' extensive transmission networks. Additionally, increases in market share will be realized by expanding WINGAS's activities into new regions in Europe.

## **Exploration and Production of Oil and Natural Gas**

activities in both regions

The exploration and production of oil and natural gas have been Wintershall's core businesses, with producing assets in Germany, the Netherlands, Libya, Argentina, Russia, and Dubai.

BASF believes that Wintershall presently has finding and development costs that are below the industry average. Unlike major oil and gas exploration and production companies, Wintershall focuses its exploration and production activities on a select number of core regions where a combination of technical expertise, local operating experience and strategic partnerships allow it to develop petroleum resources at below-average costs.

Wintershall is the operator of most of the significant exploration and production projects in which it has an interest. In projects where it is not the operator, Wintershall participates in operating decisions pursuant to agreements with operators.

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The Oil & Gas segment presently conducts activities in the following countries:

Country	Activities	Country	Activities
Argentina	Oil and gas exploration and production	The Netherlands	Oil and gas exploration and production
Brazil	Oil and gas exploration	Qatar	Oil and gas exploration
Dubai	Oil exploration and production	Romania	Gas exploration and production
Germany	Oil and gas exploration and production	Russia	Oil and gas exploration and production
Libya	Oil and gas exploration and production	United Kingdom	Gas exploration

## Reserves

The Oil & Gas segment's most significant oil reserves are in North Africa and Germany, with the substantial share of these reserves being located in Libya. The most significant natural gas reserves are in Argentina, Germany and the Netherlands. The Oil & Gas segment's proved oil and gas reserves and proved developed oil and gas reserves by geographic area were as follows:

		North Africa and		Rest of		Rest of World
	Germany	Middle East	Argentina	World	Total	(at equity)
At December 31, 2003						
Oil (millions of barrels)						
Proved reserves	93	417	52	0	562	14
Proved developed reserves	60	348	28	0	436	14
Gas (billions of cubic feet)						
Proved reserves	453	226	1,463	269	2,411	
Proved developed reserves	395	137	604	167	1,303	
At December 31, 2002						
Oil (millions of barrels)						
Proved reserves	92	422	50	1	565	17
Proved developed reserves	76	369	33	1	479	17
Gas (billions of cubic feet)						
Proved reserves	482	208	1,341	328	2,359	
Proved developed reserves	425	149	684	105	1,363	
At December 31, 2001						

Oil (millions of barrels)						
Proved reserves	101	442	39		582	19
Proved developed reserves	70	412	28		510	19
Gas (billions of cubic feet)						
Proved reserves	500	172	1,225	134	2,031	
Proved developed reserves	500	171	612	57	1,340	

At 2003 levels of production proved oil reserves would last approximately nine years, and proved gas reserves would last approximately 11 years.

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## **Exploration and Production**

The net quantities of oil and gas produced as well as the average sales price and production cost (lifting cost) per unit of oil and gas produced in each of the last three years were as follows:

		2003		2002		2001
Oil						
Net quantities produced						
(millions of barrels)		65		60		60
Average sales price less						
royalties (per barrel)	€	18.90	€	19.10	€	20.39
Average production cost						
(lifting cost) (per barrel)	€	3.20	€	3.44	€	3.60
Gas						
Net quantities produced						
(billions of cubic feet)		228		189		186
Average sales price less						
royalties (per thousand						
cubic feet)	€	2.04	€	1.92	€	2.57
Average production cost						
(lifting cost) (per thousand						
cubic feet)	€	0.57	€	0.52	€	0.54

Wintershall's total gross and net productive wells, total gross and net developed acres and total gross and net undeveloped acres (both leases and concessions) as of December 31, 2003, were as follows:

	Germany	North Africa and Middle East <sup>(1)&gt;</sup>	Argentina	Rest of World <sup>(1)&gt;</sup>	Total	Rest of World (at equity)
Oil						
Total gross productive wells	512.0	285.0	57.0	7.0	861.0	11.0
Total net productive wells	238.7	64.8	18.2	7.0	328.7	5.5
Gas Total gross productive wells Total net productive wells	144.0 67.1	0.0 0.0	150.0 35.7	127.0 25.3	421.0 128.1	
Oil and Gas Acreages						
(thousand of acres)						
Total gross developed acres	187.3	99.7	256.2	111.6	654.8	0.9
Total net developed acres	66.2	34.3	60.4	16.7	177.6	0.4
Total gross undeveloped acres	2,864.2	1,929.0	9,187.3	5,015.1	18,995.6	5,589.1
Total net undeveloped acres	1,456.3	711.6	4,231.1	1,946.0	8,345.0	2,794.5

(1) Consolidated activities only.

In 2003, Wintershall spent €385 million for exploration, acquisition and investment, compared with €999 million in 2002. Thereof, €151 million were spent in Europe (2002: €749 million), €147 million in North Africa/Middle East (2002: €124 million), €67 million in South America (2002: €111 million) and €20 million in Russia/Caspian Sea (2002: €15 million).

Either directly or through its subsidiaries, Wintershall was involved in the drilling and completion of 12 exploratory wells, which resulted in seven successful wells. As of December 31, 2003, Wintershall had begun drilling five additional exploratory wells.

In 2003, approximately 70% of the Oil & Gas segment's oil reserves and production activities were in North Africa and the Middle East. The substantial majority of these reserves and production activities were in Libya, where the segment operates several onshore oilfields and produces associated natural gas for local consumption. Offshore Libya Wintershall holds a 12.5% interest in the Al Jurf oil field, which started production in September 2003. BASF does not believe the ILSA (Iran-Libya Sanctions) Extension Act adopted by the United States government will have a material adverse effect on BASF's financial condition or results of operations. Remaining oil production takes place primarily in the

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Mittelplate offshore oil field in the German North Sea as well as in Dubai, Argentina, the Netherlands and Russia.

With approximately 200 million barrels of proved initial reserves, the Mittelplate field is the largest known German oil reservoir. Wintershall and its partner, RWE-Dea AG, with a 50% interest each, have been producing oil from an offshore production platform since 1987. As of 1998, the Mittelplate field has also been developed from an onshore site by extended-reach wells. In 2003, oil production increased to 15.4 million barrels of which 9.3 million barrels were produced through extended-reach wells. The partners intend to connect the offshore production platform by pipeline to the onshore facilities, thus further increasing the production of the field. The project realization is subject to the approvals of the authorities.

In October 2003 the new core region Russia/Caspian Sea, Wintershall had become the operator for a highly prospective exploration block offshore Dagestan, Russia by acquisition of 70% interest in OOO Megatron NVK.

Wintershall produces 43% of its natural gas in Argentina. In 2001, Wintershall, with its partners, decided to develop the Carina and Aries gas fields off the coast of Tierra del Fuego. As a result of the economic development in Argentina, the project schedule has been adjusted in accordance with expected gas demand. In 2003 Wintershall successfully managed to strengthen its exploration portfolio by acquiring the block La Invernada in the Neuquen basin and an interest in the Geminis prospect offshore Tierra del Fuego, both in the vicinity of our producing assets. In the Central Patagonian frontier area Cañadon Asfalto basin Wintershall together with Repsol YPF were granted two exploration blocks for which the official governmental approval is still pending; however field work has already commenced.

Wintershall more than doubled its reserves and future production in the Netherlands through the acquisition of Clyde Netherlands B.V. in 2002. Wintershall is now the third largest gas producer in the country. With the production start-up of two new gas fields in October 2003 Wintershall now operates a total of 23 offshore platforms in the North Sea. Clyde also contributes substantially to Wintershall's exploration portfolio. Highly qualified staff strengthens Wintershall's global Center of Expertise for Offshore Activities. The acquisition of Clyde combined two companies whose portfolios complement each other. Offshore UK, Wintershall was granted five exploration blocks in July 2003, which are located at the border with the Netherlands.

The Oil & Gas segment has a 49.95% participation interest in and is the operator of the first natural gas offshore field on the German continental shelf, approximately 300 kilometers off the German North Sea coast. Since production start-up in 2000 the field production capacity has been maintained at 45 billion cubic feet per year. The major partners in this project include Exxon Mobil Production Deutschland GmbH and RWE-Dea AG. N.V. Nederlandse Gasunie, a Dutch natural gas distributor has contracted to purchase the natural gas produced from this field.

BASF has a cooperation agreement with Gazprom that provides a framework for future project-specific agreements. The agreement also contemplates the joint participation of Wintershall and Gazprom in the exploration and production of oil and gas primarily in Russia. Wintershall and Gazprom are specifically planning to participate in the development of large gas/condensate fields in Western Siberia. For development of the vast gas and condensate reserves of the Achimov formation in the Urengoy field the joint venture company Achimgaz was established in July 2003. Joint venture partners are OOO Urengoygazprom, a subsidiary of Gazprom, and Wintershall with 50% interest each.

In general, oil and gas exploration and production activities require high levels of investment and entail particular economic risks and opportunities. These activities tend to be highly regulated, and

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companies engaging in these activities generally may face intervention by governments in matters such as:

/\*/
The award of exploration and production licenses

/\*/
The imposition of specific drilling and other work obligations

/\*/
Environmental protection measures

/\*/
Control over the development and abandonment of fields and installations

/\*/
Restrictions on production

Crude oil prices are subject to international supply and demand and other factors that are beyond an oil company's control. Political and economical developments can affect world supply of and demand for oil, and therefore oil prices as well. Such factors can also affect the price of natural gas sold under long-term contracts because, under long-term contracts in Germany and in many other countries, natural gas pricing typically is tied to prices of refined products pursuant to a specified time lag. Crude oil prices are generally set in U.S. dollars, while costs may be incurred in a variety of currencies. Fluctuations in exchange rates therefore can give rise to foreign exchange exposures.

As with most international oil and gas companies, substantial portions of the oil and gas reserves of Wintershall are located in countries outside the European Union and North America, some of which can be considered politically and economically less stable than European Union or North American countries. These reserves and the related operations may be subject to political risks. To date, political risks have not significantly affected the Oil & Gas segment or had a material adverse effect on BASF's financial condition or results of operations.

Wherever possible, Wintershall arranges capital investment guarantees by the German government to protect its investments. German government guarantees currently cover a total investment volume by Wintershall of approximately €523 million, including inventory of raw materials and supplies.

General uncertainties are inherent in estimating quantities of proved reserves and in projecting future rates of production and timing of development expenditures. The accuracy of any reserve estimate is a function of the quality of available data and engineering, and geological interpretation and judgment. Results of drilling, testing and production after the date of the estimate may require substantial upward or downward revisions. In addition, changes in oil and natural gas prices could have an effect on the economically recoverable reserves. Accordingly, reserve estimates could be materially different from the quantities of oil and natural gas that are ultimately recovered. However, according to company standards, Wintershall conducts reserves audits of its major oil and gas fields through independent, internationally recognized auditors.

#### **Natural Gas Distribution and Trading**

BASF conducts its natural gas distribution and trading activities pursuant to an extensive agreement with OOO Gazexport, a subsidiary of Gazprom. To promote the joint marketing of mainly Russian, as well as Western European natural gas predominantly in Germany, Wintershall and OAO Gazprom established two joint ventures:

/\*/
WINGAS GmbH (WINGAS) of Kassel, Germany, in which Wintershall has a 65% ownership interest; and
/\*/

Wintershall Erdgas Handelshaus GmbH (WIEH), of Berlin, Germany, in which Wintershall has a 50% ownership interest, although profit distributions are differentiated according to customers and sales countries.

WINGAS owns and operates a large pipeline system in Germany for the distribution of natural gas and also owns and operates one underground natural gas storage site. WIEH acts exclusively as a trading company, purchasing Russian natural gas and marketing it to WINGAS and other natural gas providers in Germany. WIEH also markets Russian natural gas in Central Europe through its wholly owned Swiss subsidiary, Wintershall Erdgas Handelshaus Zug AG (WIEE), Switzerland.

In the medium term, the natural gas distribution and trading business generates stable margins and represents a source of noncyclical income for BASF. In addition, this business ensures a reliable and cost efficient source of natural gas for BASF's Verbund site in Ludwigshafen, Germany, and for other BASF companies.

Since 1991, WINGAS has invested more than  $\in$  2.7 billion (of which Wintershall's share was  $\in$  1.8 billion) in its natural gas distribution and trading activities in Germany. The high-pressure pipeline system currently spans more than 2,000 kilometers (km). The pipeline system presently consists of four primary legs:

MIDAL (*Mitte-Deutschland-Anbindungs-Leitung*), which is the longest pipeline of the WINGAS network, extending over 702 km from the North Sea to southern Germany. To supply the metropolitan area of Hamburg, the Rehden-Hamburg-Gasleitung (RHG) branches from MIDAL north of Bielefeld, forming a 132 km-long branch-pipe.

/\*/
STEGAL (Sachsen-Thüringen-Erdgas-Leitung), which is a 345 km pipeline that comes from the east and meets MIDAL south of Kassel. STEGAL supplies eastern Germany with natural gas and connects the WINGAS pipeline system with Czech and Slovakian pipeline systems that transport Russian natural gas.

WEDAL (West-Deutschland-Anbindungs-Leitung), which is a 319 km pipeline that establishes a direct connection between the WINGAS pipeline system and the Belgium transit grid via the Interconnector to the UK market, ensuring a link to the Western European natural gas network. WEDAL runs between Aachen and Bielefeld.

/\*/
JAGAL (*Jamal-Gas-Anbindungs-Leitung*), which is a 338 km pipeline that links the large YAMAL gas field in Russia to WINGAS's pipeline network system. JAGAL begins in Frankfurt/Oder and links up with STEGAL just south of Leipzig.

In addition to its natural gas pipeline network, WINGAS also owns and operates a natural gas storage site in Rehden, Germany. It is the largest underground gas storage site in Western Europe, with a working gas capacity of 157 billion cubic feet.

In 2003, WINGAS purchased 217 billion cubic feet of natural gas from WIEH, which in turn purchases all of its gas from Gazprom's subsidiary Gazexport. In 2003, WINGAS bought 160 billion cubic feet directly from Gazexport so that in total 377 billion cubic feet or 68% were purchased from Russian sources. WINGAS also bought 98 billion cubic feet from North Sea suppliers, primarily from EDF Trading Ltd. and Conoco, 68 billion cubic feet in the main forward market and 12 billion cubic feet low caloric gas from Wintershall.

In 2003, WINGAS entered into new supply contracts with municipalities, industrial companies and in the forward market. In addition WINGAS started during the reporting year deliveries to industrial customers in Belgium via third party access through the network of the Belgium pipeline system. In total the sales volume increased from 456 billion cubic feet to 559 billion cubic feet. This growth was due to the increase in the supply to new customers and to the low temperatures during the last winter. The sales volume of WINGAS, WIEH and WIEE totaled 978 billion cubic feet compared with 814 billion cubic feet for 2002. The BASF consolidated sales volume in 2003 was 647 billion cubic feet, representing a 24% increase over the previous year's sales volume of 524 billion cubic feet.

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WINGAS's biggest customer is BASF's own Verbund site in Ludwigshafen. In 2003, the site purchased approximately 93 billion cubic feet, or approximately 17% of WINGAS's distribution volume. Approximately 19 billion cubic feet, or approximately 3%, was sold to other BASF companies; 33% to transmission companies; 19% to regional distributors, municipalities and industrial companies; and 28% was sold in foreign markets of which the main part was sold mainly at trading hubs. In 2003, most of the natural gas WINGAS distributed in Germany was sold to

approximately 60 customers via long-term natural gas supply agreements.

WINGAS is currently the third largest natural gas transmission and distribution company in Germany. Capital expenditures in 2003 totaled  $\in$ 36 million. The enlargement of STEGAL's transport capacity with its  $\in$ 21 million initial investment represents the largest project. This targeted expansion measure will secure additional transport of Russian natural gas to Western Europe, which will help to compensate in the medium term for the declining natural gas offshore production in the North Sea.

#### ENVIRONMENTAL MATTERS

BASF is subject to extensive, evolving and increasingly stringent international and local environmental laws and regulations concerning: the production, distribution, the handling and storage of our products, the disposal of materials, the practices and procedures applicable to construction and operation of sites, the exploration and production of oil and gas, as well as the maintenance of safe conditions in the workplace.

These Environmental protection and remediation laws and regulations govern primarily:

/*/	The protection of humans and the environment from the harmful effects of dangerous chemical substances
/*/	Emissions into the air and other releases into the environment
/*/	The purification and discharge of waste water and waste management, focusing on waste avoidance and reuse of waste

Although BASF believes that its production sites and operations currently fully comply with all applicable laws and regulations, these laws and regulations have required and in the future could require BASF to take action to remediate the effects on the environment of the prior disposal or release of chemicals or petroleum substances or waste. Such laws and regulations have applied and in the future could apply to various sites, including BASF's chemical plants, oil fields, waste disposal sites, chemical warehouses and natural gas storage sites. In addition, such laws and regulations have required and in the future could require BASF to install additional controls for certain emission sources, undertake changes in its operations in future years and remediate soil or groundwater contamination at current and/or former sites and facilities.

BASF's operating costs for environmental protection totaled €667 million in 2003. These costs are recurring or one-time costs associated with sites or measures that are incurred in the avoidance, reduction or elimination of deleterious effects on the environment. They include the costs of disposal sites, such as wastewater treatment plants and residue incinerators. They also comprise different levies such as effluent levies, water levies, costs for disposal services by third parties, monitoring, analyses and surveillance carried out by mobile and stationary units as well as research and development costs for reducing the incidence of residues. BASF also spent approximately €159 million in 2003 on capital expenditures for pollution control devices and equipment.

BASF also incurs costs to remediate the impact of the past disposal as well as the release of chemicals or petroleum substances or waste, both at its own sites and at third-party sites to which BASF has sent waste for disposal. Worldwide, BASF had established provisions of €248 million for anticipated

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investigation and clean-up costs at such sites as of December 31, 2003, and €264 million as of December 31, 2002.

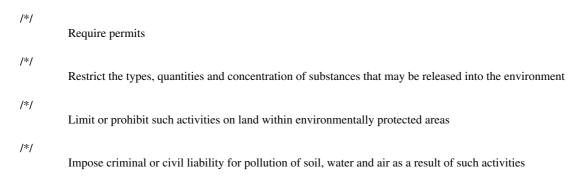
In the United States, liability for remediation of contamination is imposed generally pursuant to the federal Comprehensive Environmental Response Compensation and Liability Act (Superfund) and analogous state laws. Although such U.S. laws generally allow the recovery of the total cost of cleanup from any single responsible party, cleanup costs typically are shared among several responsible parties at third-party sites where multiple parties sent waste to the site for disposal, and sometimes at owned or operated sites where a predecessor or other third-party disposed of waste on-site. BASF has been notified that it may be a potentially responsible party at such sites. The proceedings related to these sites are in various stages. The cleanup process has not been completed at most sites; the number, potential liability and financial viability of other parties are typically not fully resolved and the status of the insurance coverage for most of these proceedings is uncertain. Consequently, BASF cannot accurately determine the ultimate liability for investigation or cleanup costs at these sites. As events progress at each site for which BASF has been named a potentially responsible party or is otherwise involved in remediation of contamination, BASF accrues, as appropriate, a liability for site cleanup. Such liabilities include all costs that are probable and can be reasonably estimated. In establishing these liabilities,

BASF considers its shipments of waste to a site and its percentage of total waste shipped to the site (in the case of third-party sites); the types of waste involved; the conclusions of any studies; the magnitude of any remedial actions which may be necessary; and the number and viability of other potentially responsible parties. Although the ultimate liability may differ from estimates, BASF routinely reviews liabilities and revised estimates, as appropriate, based on the most current information available.

BASF has established and continues to establish provisions for environmental remediation liabilities where the amount of such liability can be reasonably estimated. The provisions made are considered to be in accordance with U.S. GAAP. BASF sets up or adjusts accruals as new remediation commitments arise or additional information becomes available. For further information, see Note 24 to the Consolidated Financial Statements.

BASF establishes provisions for currently known potential soil contamination at BASF sites that are still in operation, or in case of the accidental release of chemicals around the world. In general investigations into potential contamination and subsequent cleanup are only required when a site is closed and the existing production facilities dismantled. Taking into account BASF's experience to date regarding environmental matters and facts currently known, BASF believes that capital expenditures and remedial actions necessary to comply with existing laws and conditions governing environmental protection will not have a material effect on BASF's consolidated financial condition or results of operations.

In connection with the onshore and offshore oil and gas activities conducted by BASF's subsidiary, Wintershall, BASF is subject to an increasing number of international and national laws, regulations and directives governing the protection of the environment. In connection with the exploration, drilling, production, storage, transportation and distribution of oil and gas, these regulations may, among other things:



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Wintershall performs environmental impact studies where new oil and gas activities are planned and complies with environmental protection principles when onshore and offshore sites are abandoned. Environmental laws and regulations have an increasing impact on the oil and gas industries, and therefore on Wintershall. It is impossible to predict accurately the effect of future developments in such laws and regulations on Wintershall's future earnings and operations. Some risk of environmental costs and liabilities is inherent in Wintershall's oil and gas activities, as it is with other companies engaged in similar businesses. BASF can make no assurance that Wintershall will not incur material costs and liabilities relating to environmental matters.

In recent years the operations of all chemical companies have become subject to increasingly stringent legislation and regulations related to occupational safety and health, product registration and environmental protection. Such legislation and regulations are complex and constantly changing, and there can be no assurance that future changes in laws or regulations would not require BASF to install additional controls for certain of its emission sources, to undertake changes in its manufacturing processes or to investigate possible soil or groundwater contamination and remediate proven contamination at sites where such cleanup is not currently required.

## SUPPLIES AND RAW MATERIALS

## Raw materials procurement

Through its Verbund strategy, BASF operates in an integrated manufacturing environment that processes basic raw materials to produce thousands of products for sale as finished goods at various points in these manufacturing processes. Large amounts of raw materials purchased by BASF are therefore used as feedstocks in these value-adding chains of production.

The major raw materials that feed BASF's Verbund production sites are hydrocarbon-based raw materials such as naphtha and LPG (liquefied petroleum gas). These materials are used as feedstocks for the steam crackers that are operated in Ludwigshafen, Germany; Antwerp, Belgium; and Port Arthur, Texas. BASF monitors the market for naphtha, and actively hedges its exposure by using swaps and options. Other important hydrocarbon-based raw materials are natural gas, benzene and propylene. BASF primarily sources its natural gas from Russia by means of long-term natural gas supply contracts with Gazprom. These contracts are conducted through BASF's joint ventures with Gazprom, WINGAS and WIEH. Other important materials at BASF include cyclohexane, ammonia, titanium dioxide and methanol.

BASF believes the company can purchase raw materials most efficiently through its network of global and regional procurement teams. High-volume raw materials or those of strategic importance, such as raw materials used at the start of BASF's value-adding chains of chemistry, tend to be purchased by global procurement teams in order to leverage BASF's purchasing power and secure a stable supply of key raw materials. Regional procurement teams play an essential role in purchasing raw materials for the company's regional production sites.

BASF has a policy of maintaining, when possible, multiple sources of supply for materials and is not dependent on a limited number of suppliers for essential raw materials.

BASF has not experienced any difficulty in obtaining sufficient supplies of raw materials in recent years and believes it will generally be able to obtain them at competitive market prices in the future. BASF however, cannot give any assurance that its ability to obtain sufficient raw materials at any time will not be adversely affected by unforeseen developments. In addition, the prices of raw materials may vary, perhaps significantly, from year to year.

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## Technical goods and services procurement

The technical goods and services that BASF purchases are related primarily to the company's manufacturing activities, which involve significant capital expenditures to design and build plants and later to maintain them. These expenditures therefore also cover the maintenance of sites and offices around the world.

BASF's global and regional procurement teams work with engineers and technical staff to identify where and how technical goods and services can be procured most efficiently. To this end, the standardization of goods and services is a key driver for reducing costs. Standardizing goods and services tends not only to be more cost effective, but reduces the expenses associated with servicing and maintenance during the total life cycle. Furthermore, the company's procurement teams work closely with suppliers to support them in developing system solutions.

#### E-commerce

BASF is using e-commerce to increase the efficiency of its procurement processes. For example, increasingly in the chemicals industry, buyers and sellers are connecting their respective enterprise resource planning (ERP) systems through online marketplaces. BASF's ERP is linked to Elemica Holding Ltd., a neutral electronic marketplace for the purchase and sale of basic, intermediate, specialty and fine chemicals.

Electronic marketplaces are also playing a strategic role in BASF's technical goods and services procurement. BASF is a founding partner in cc-chemplorer, a marketplace for maintenance, repair and operations-related products and services for the chemical industry. BASF believes that its involvement in such e-commerce activities is making a positive contribution to the speed and quality of its procurement activities.

## ORGANIZATIONAL STRUCTURE

BASF Aktiengesellschaft is the ultimate parent company of the BASF Group. The Group operates in five separate business segments, which encompass BASF's 12 operating divisions. The business segments are reportable segments except for business segment Agricultural Products & Nutrition, which is treated as two reportable segments, disclosing separately the Agricultural Products and Fine Chemicals divisions. The divested Pharmaceuticals division was formerly included as a third reportable segment in the business segment formerly known as Health and Nutrition.

Business operations are run by 57 regional and global business units, organized along business or product lines. As profit centers, they are responsible for all business operations from production to marketing and sales and their processes are customer-oriented.

In addition, to its operating divisions and business units, BASF has three corporate divisions which support the Board of Executive Directors in directing the company's activities, and nine competence centers which oversee strategic activities and set global standards. The corporate divisions are Legal, Taxes & Insurance; Planning & Controlling and Finance. The competence centers are Logistics; Information Services; Human Resources; Environment, Safety & Energy; Purchasing; Corporate Engineering; Chemicals Research & Engineering; Specialty Chemicals Research and Polymer Research.

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The following table sets forth significant subsidiaries owned, directly or indirectly, by BASF Aktiengesellschaft:

Name of Company	Percentage
BASF Coatings AG, Münster-Hiltrup, Germany	Owned (%) 100
BASF Schwarzheide GmbH, Schwarzheide, Germany	100
Elastogran GmbH, Lemförde, Germany	100
Wintershall AG, Kassel, Germany	100
BASF Antwerpen N.V., Antwerp, Belgium	100
BASF Española S.A., Tarragona, Spain	100
BASF Corporation, Mount Olive, New Jersey	100
BASF S.A., São Bernardo do Campo, Brazil	100
BASF Company Ltd., Seoul, Korea	100

## DESCRIPTION OF PROPERTY

BASF owns and operates numerous production and manufacturing sites throughout the world. The principal offices of BASF Aktiengesellschaft are located in Ludwigshafen, Germany. In addition, BASF operates regional headquarters, sales offices, distribution centers and research and development facilities worldwide.

At the heart of BASF's integration strategy are its Verbund production sites. The following is a description of these sites including the number of production plants:

Location	Produc	tion
Ludwigshafen, Germany	Acreage 1,760	Plants 250
Antwerp, Belgium	1,470	54
Geismar, Louisiana	2,290	20
Freeport, Texas	510	12

Kuantan, Malaysia 150 12

An additional Verbund site is currently under construction in Nanjing, China, with the joint venture partner SINOPEC.

See "Item 4. Information on the Company Environmental Matters" for information on environmental issues related to BASF's properties. Additional information regarding BASF's property, plant and equipment is contained in Note 14 to the Consolidated Financial Statements included in Item 18.

For information on BASF's oil and natural gas exploration and production activities, see "Item 4. Information on the Company Oil & Gas" and "Supplementary information concerning oil and gas producing activities (unaudited)" in Item 18.

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## Item 5. Operating and Financial Review and Prospects

#### **OVERVIEW**

BASF is a transnational chemical company that aims to increase its corporate value through growth and innovation. The company's product range includes high-performance products, including chemicals, plastics, coatings systems, dispersions, agricultural products, fine chemicals as well as crude oil and natural gas.

BASF is comprised of the parent company, BASF Aktiengesellschaft of Ludwigshafen, Germany, and 153 consolidated subsidiaries and affiliated companies. The company has customers in more than 160 countries and operates production sites in 41 countries.

BASF conducts its worldwide operations through 12 operating divisions, which have been aggregated into five business segments based on the nature of the products and production processes, type of customers, channels of distribution and nature of the regulatory environment. The business segments are reportable segments, with the exception of Agricultural Products & Nutrition, which is treated as two reportable segments, Agricultural Products and Fine Chemicals, respectively. The divested Pharmaceuticals division was until 2001 included as a third reportable segment in the business segment Health & Nutrition.

The reportable operating segments are:

/\*/

/*/	Chemicals
<b>/</b> */	Plastics
/*/	Performance Products
<b>/</b> */	Agricultural Products and Nutrition
/*/	Agricultural Products
<b>/</b> */	Fine Chemicals

Pharmaceuticals (discontinued operations)

/\*/ Oil & Gas

#### BASIS OF PRESENTATION

#### Overview

The Consolidated Financial Statements of BASF included in Item 18 of this report have been prepared based on BASF's accounting and valuation principles in accordance with German GAAP as required by the German Commercial Code (*Handelsgesetzbuch*), the standards of the German Accounting Standards Committee (GASC) and the German Stock Corporation Act (*Aktiengesetz*).

There are certain differences relating to accounting and valuation methods that are required under U.S. GAAP but are not allowed under German GAAP. The effects of BASF's reconciliation of the remaining differences between German GAAP and U.S. GAAP for the years ended December 31, 2003 and 2002 are described in Note 4 to the Consolidated Financial Statements included in Item 18.

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#### Outlook for 2004

After three years of weak global growth, we see more favorable mid-term prospects than in previous years, despite latent risks in the Middle East. We are planning our activities based on the following premises:

/\*/
Improved investment climate and a gradually improving consumer climate

/\*/
An average crude oil price (Brent) of \$28/barrel in 2004

/\*/
U.S. dollar remains weak and volatile

Under these premises, we anticipate that the global economy will regain momentum. The United States and Asia's growth markets will lead the way in strengthening the global recovery process. The global chemical industry will recover in pace with increasing demand from industrial customers. The impetus for growth in chemical production will come from the recovery in the United States and Asia.

In the following descriptions of results of operations in the segments, we make forecasts for sales and earnings in 2004. These forecasts are based on the assumption of the above described scenario.

## **Critical Accounting Policies**

Critical accounting policies are those that are most important to the portrayal of the company's financial condition and results of operations. These policies require management's difficult, subjective and complex judgments in the preparation of the financial statements and accompanying notes. Management makes estimates and assumptions about the effect of matters that are inherently uncertain, relating to the reporting of assets, liabilities, revenues, expenses and the disclosure of contingent assets and liabilities. The company's most critical accounting policies are discussed below.

## Pension provisions and similar obligations

Obligations arising from company pension plans are based on actuarial computations made by external actuaries according to the projected unit credit method. Accordingly, assumptions must be made with regard to discount factors, salary and pension trends, and, in the case of externally financed obligations, with regard to the growth and return on the fund assets used to finance future obligations.

These assumptions are redefined as of each balance sheet date, taking account of current circumstances. Discount factors are based on returns for securities or bonds with high credit ratings. The expected return on fund assets is based on long-term developments as observed in the capital markets as well as the respective portfolio structures. If the actual developments deviate from the assumptions made, the resulting actuarial profits or losses beyond a given limit are distributed over the future years of service of employees.

See Note 23 to the Consolidated Financial Statements for further details with regard to the change in pension obligations and financing status.

#### Provisions for legal damages

The evaluation of risks associated with claims for damages and litigation and the determination of the amounts of related provisions are subject to considerable judgment. In particular, this relates to pending regulatory proceedings and claims for damages associated with antitrust violations in the vitamins business.

It is currently not possible to estimate the full consequences of litigations. Corresponding provisions are established to the extent that they are considered probable and the amount can be reasonably estimated. The level of provisions also considers the outcomes of similar cases and legal opinions, taking into account the current circumstances. The actual outcome of legal proceedings may

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differ considerable from these estimates. See also Note 27 to the Consolidated Financial Statements for further information with regard to litigation and claims.

## Deferred taxes on loss carryforwards

Tax loss carryforwards are primarily related to restructuring measures at subsidiaries in the North American (NAFTA) region. In countries in the NAFTA region, these carryforwards may be set against future taxable income for up to 20 years.

The realization of deferred tax assets on these carryforwards is dependent upon the economic development of our subsidiaries in the NAFTA region. An evaluation is affected by difficulties in predicting long-term economic developments. Significant valuation allowances were not made to deferred tax assets on tax-loss carryforwards in 2003 in view of the long carryforward period and in expectation of stable economic developments in the NAFTA region.

See also Note 10 to the Consolidated Financial Statements for further information on deferred taxes.

## Goodwill

From 2002 onward, goodwill is no longer to be amortized under U.S. GAAP. Instead, goodwill is written off only if the carrying value of goodwill is impaired. The value of goodwill has to be reviewed at least once per year at the reporting unit level. An impairment exists if the book value of the goodwill at the reporting unit exceeds the fair value, generally determined based upon the discounted value of expected future cash flows.

To review the value of goodwill, however, it is necessary to make assumptions with regard to the long-term profitability of the operating units against the background of macroeconomic developments. To a significant extent, goodwill is associated with the acquisition of the insecticide fipronil from Bayer CropScience in March 2003 and of the crop protection business of American Home Products Corporation in 2000. The value of these goodwills is subject to the long-term development of the global market for crop protection products and the continued profitability of this business.

Write-offs due to impairment were not necessary in 2003. As a result, the amortization expenses recorded in accordance with German GAAP are reversed in the reconciliation to U.S. GAAP (see Note 4 to the Consolidated Financial Statements).

## Provisions for environmental protection measures and site remediation

The company records liabilities for environmental issues in the accounting period in which its responsibility is established and the cost can be reasonably estimated. At environmental sites in which more than one potentially responsible party has been identified, the company records a liability for its allocable share of costs related to its involvement with the site, as well as an allocable share of costs related to insolvent parties or

unidentified shares. At environmental sites in which the company is the only potentially responsible party, a liability is recorded for the total estimated costs of remediation before consideration of recovery from insurers or other third parties. The process of estimating environmental liabilities is complex and dependent on; physical and scientific data at the site, uncertainties as to remedies and technologies to be used, and the outcome of discussions with regulatory agencies.

See also Note 24 to the Consolidated Financial Statements for further explanations with regard to the accrual of provisions for environmental protection measures and site remediation.

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## Impairment of long-lived Assets

Impairment tests of long-lived assets are made when conditions indicate a possible loss. Impairment tests are based on a comparison of undiscounted cash flows to the recorded value of the asset. The estimate of the cash flows is based on information available at that time including factors such as: expected sales, customer trends, operating efficiencies, material and energy prices, etc. If an impairment is indicated, the asset value is written down to its fair value based upon market prices or, if not available, upon discounted cash flows. The assumptions used in the cash flow projections reflect the market conditions at the time an impairment becomes known.

## New U.S. GAAP accounting standards not yet adopted

FIN 46, "Consolidation of Variable Interest Entities", which was issued in January 2003 and revised in December 2003, requires consolidation of variable interest entities by the primary beneficiary, even in the absence of a majority of the voting rights, FIN 46 is to be applied for interests in special purpose entities for periods ending after December 15, 2003 and for interests in all other entities for periods ending after March 15, 2004. The application of FIN 46 within the BASF group was analyzed, and it was determined that it would not have a significant impact on the assets, profitability, or financial situation of the BASF Group.

## Off Balance Sheet Arrangements, Contingent Liabilities and Other Financial Obligation

Our unconsolidated entities are not considered special-purposes entities, and do not constitute other off-balance sheet arrangements.

Contingent liabilities and other financial obligations are described in Note 26 to the Consolidated Financial Statements in Item 18.

## RESULTS OF OPERATIONS

## Group

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with the Consolidated Financial Statements and the Notes to the Consolidated Financial Statements included in Item 18 of this Annual Report.

Income from operations in 2003 was somewhat higher than in 2002 despite a persistently difficult business environment and despite a higher level of special items. Our measures to increase efficiency and reduce costs offset higher raw materials costs and insufficient sales prices resulting from global competitive pressures. Net income declined significantly due to a lower financial result and higher tax expense due, among other things, to legislative changes.

The following table sets forth sales and income for BASF. Sales are net of petroleum and natural gas taxes.

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## Sales and Earnings

2003 2002 2001

%

			Change from Previous			Change from Previous		
			Year			Year		
			(euros in m	illio	ons, except per shar	e data)		
Sales	€	33,361.2	3.6	€	32,215.5	(0.9)	€	32,499.6
Gross profit		10,028.2	(3.6)		10,400.0	0.9		10,311.8
Gross profit as a percentage of sales (%)		30.1	(6.8)	_	32.3	1.9		31.7
Income from operations	€	2,658.2	0.7	€	2,640.7	117.0	€	1,216.9
Income from operations as a percentage of sales		0.0	(2. t)		0.0	101 6		2.5
(%)	a	8.0	(2.4)	G	8.2	121.6	G	3.7
Special items	€	(335.0)	(39.9)	€.	(239.5)	77.7	€	(1,076.1)
Financial Result		(490.2)	(4 = 0)		0.2			(608.2)
Income before taxes and minority interests		2,168.0	(17.9)		2,640.9	333.7		608.7
Net income		910.2	(39.5)		1,504.4	(74.3)		5,858.2
Net income as a percentage of sales (%)	C	2.7	(42.6)	C	4.7	(73.9)	C	18.0
Basic earnings per share	€	1.62	(37.7)	€	2.60	(73.3)	€	9.72
Amounts in accordance with U.S. GAAP								
Net income	€	1,337.7	(22.1)	€	1,716.9	(69.8)	€	5,692.4
from continuing operations		1,337.7	(22.1)		1,716.9			(238.2)
from discontinued operations including gain								
from disposal								5,892.6
cumulative effect of implementing SFAS 133								38.0
Basic earnings per share	€	2.38	(19.6)	€	2.96	(68.7)	€	9.45
from continuing operations		2.38	(19.6)		2.96			(0.39)
from discontinued operations including gain on			( )					()
disposal								9.78
cumulative effect of implementing SFAS 133								0.06
diluted earnings per share		2.38	(19.6)		2.96	(68.7)		9.45
The Country of the Co		C C225 '11'	(17.0)		. 1 1 0205 11	( )		7.15

Income from operations in 2003 contains special charges of €335 million. This amount includes €305 million for restructuring measures taken to increase efficiency as part of the Ludwigshafen Site Project and to reorganize our service divisions in North America (NAFTA). The proceeds from the sale of the soil improvement products business in December offset most of the costs of integrating the fipronil business acquired by the Agricultural Products division.

Income from operations in 2002 included special charges of €240 million. This was €836 million less than in the previous year. Charges of €124 million were incurred as a result of restructuring measures. These were due to the closure of ethylene oxide and glycol plants in the Chemicals segment in Geismar, Louisiana; various optimization and restructuring measures in the Agricultural Products & Nutrition segment; and measures to improve efficiency associated with the Site Concept at the Ludwigshafen production site. Further special charges of €116 million resulted primarily from the €100 million provision for claims for damages related to the vitamins business. The financial result included special income of €301 million related in particular to the sale of marketable securities and of a lease financing company.

In 2001, the high special charges of epsilon1,076 million in income from operations were caused by our comprehensive restructuring program, which resulted in charges of epsilon747 million. Moreover, an

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additional provision of approximately €200 million had to be made for the fines imposed by the E.U. Commission for antitrust violations in the vitamins business.

2003 Compared with 2002

**Sales** 

Sales in 2003 rose €1,145 million compared with the previous year to €33,361 million. The following factors contributed to the change in sales:

		2003		
		euros in	as %	
		millions	of sales	
Volume	€	2,421	7.6	
Prices		692	2.1	
Currency exchange		(2,345)	(7.3)	
Acquisitions and additions to scope of consolidation		638	2.0	
Divestitures		(261)	(0.8)	
	_			
	€	1,145	3.6	

We achieved higher sales volumes primarily in the Chemicals, Plastics and Oil & Gas segments. Some divisions were able to impose price increases to compensate somewhat for the increase in raw materials costs.

The weakness of the U.S. dollar caused sales to decline considerably in euro terms in North America (NAFTA), South America and Asia. In local currency terms, however, sales rose by 10% in North America, by 13% in South America and by 25% in Asia.

Acquisitions increased sales by €633 million, primarily due to the acquisition of the global fipronil business from Bayer CropScience and the purchase of Honeywell's engineering plastics. Additions to the scope of consolidation contributed €5 million to sales.

Divestitures reduced comparable sales by €261 million, primarily due to the sale of our nylon fibers business to Honeywell.

#### Gross Profit

After deducting production costs from sales, we recorded a gross profit of epsilon 10,028 million in 2003. The decline of epsilon 372 million or 3.6% resulted mainly from considerably higher raw materials costs. Lower capacity utilization in the second half of the year also had a negative impact. The ratio of gross profit to sales declined to 30.1% from 32.3% in 2002.

## Income from Operations

Income from operations was slightly higher than in 2002. Improvements in the Agricultural Products & Nutrition, Oil & Gas and Other segments offset the decline in Chemicals, Plastics and Performance Products. At  $\epsilon$ 2,658 million, income from operations in 2003 was  $\epsilon$ 17 million higher than in the previous year and as a ratio of sales was 8.0%, compared with 8.2% in 2002.

## Income before Taxes

Compared with 2002, income before taxes declined  $\[ \le 473 \]$  million to  $\[ \le 2,168 \]$  million in 2003. This decline is due to the almost identical decline in the financial result by  $\[ \le 490 \]$  million. In 2002, the financial result contained gains from the sale of securities. In 2003, income from financial assets also declined and certain financial assets had to be written down (see Note 8 to the Consolidated Financial Statements in Item 18).

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#### Net Income/Earnings Per Share

Income before taxes and minority interests was  $\[ \in \]$ 2,168 million and the tax expense was  $\[ \in \]$ 1,192 million or 55%. After deducting these taxes and minority interests of  $\[ \in \]$ 66 million, net income in 2003 was  $\[ \in \]$ 910 million, or  $\[ \in \]$ 594 million lower than in 2002. This decline was due to lower income before taxes and minority interests as well as tax expenses that were  $\[ \in \]$ 150 million higher than in the previous year. In 2003, a tax refund claim of  $\[ \in \]$ 124 million that was accounted for as tax receivable in 2002 had to be written off, resulting in an increase in tax expense of  $\[ \in \]$ 248 million compared with the previous year. This write-off of the tax refund claim for a reduction in corporate income tax associated with paid dividends was incurred due to changes in German tax law in 2003 (see Note 10 to the Consolidated Financial Statements in Item 18). In addition, foreign income taxes on oil production rose, primarily due to the production of higher volumes of oil.

Earnings per share in 2003 were €1.62, compared with €2.60 in the previous year. In accordance with U.S. GAAP, we posted net income of €1,338 million or €2.38 per share in 2003 compared with €1,717 million or €2.96 per share in 2002.

## Sales and earnings forecasts

Assuming a moderate upturn in the chemical industry, we expect slightly higher sales and an increase in income from operations in 2004, driven primarily by our restructuring, cost-reduction and portfolio optimization measures.

#### 2002 Compared with 2001

#### Sales

The following factors contributed to the change in sales:

euros in millions		as %
		of sales
€	2,547	7.8
	(1,680)	(5.2)
	(941)	(2.9)
	205	0.6
	(415)	(1.2)
€	(284)	(0.9)
	n €	millions  € 2,547 (1,680) (941) 205 (415)

Sales volumes were up substantially in 2002. We achieved significant growth in the Chemicals and Plastics & Fibers segments. As a result of new plants, in particular the new steam cracker in Port Arthur, Texas, we were able to increase production significantly in the Petrochemicals division. In addition to covering internal requirements, we sold larger volumes to external customers.

The selling prices for our products remained under pressure. Some divisions were able to impose price increases to offset higher raw material costs, but overall prices declined by 5.2%. The rise in the value of the euro against the U.S. dollar and Japanese yen, as well as a devaluation of South American currencies had a significantly negative impact on sales.

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Portfolio changes, which amounted to  $\ell$ (286) million were 0.8 percent lower than in 2001 and did not have a substantial impact. Acquisitions primarily, the Intermediates division's acquisition in mid-2001 of the Italian SISAS Group's activities in Feluy, Belgium accounted for a  $\ell$ 118 million increase in sales.

Divestitures reduced comparable sales by  $\le$ 404 million, primarily due to the divestiture of the pharmaceuticals business at the end of February 2001.

Additions to the scope of consolidation contributed €76 million, or 0.2%, to sales.

#### Gross Profit

After deducting production costs from sales, we achieved a gross profit of  $\le 10,400$  million in 2002. The increase of  $\le 88$  million, or 0.9%, caused the gross margin to rise to 32.3% compared with 31.7% in 2001. This was due to the positive development of production costs, which declined more sharply than sales (1.7% compared with 0.9%). The decline in production costs was due in particular to the higher utilization rate of production facilities and cost reductions as a result of restructuring measures.

## **Income from Operations**

Following a weak year marked by high restructuring charges, income from operations in 2002 almost returned to the level of previous years. Income from operations of  $\le$ 2,641 million in 2002 was  $\le$ 1,424 million or 117% higher than in the previous year, and represented 8.2% of sales, compared with 3.7% in 2001.

Excluding special items of €240 million in 2002 and €1,076 million in 2001, income from operations rose by 25.6% to €2,881 million. This was primarily due to improved earnings in the Chemicals and Plastics & Fibers segments as well as in Performance Products.

## Income from Ordinary Activities/Income before Taxes

Income from ordinary activities rose from  $\epsilon$ 609 million in 2001 to  $\epsilon$ 2,641 million in 2002. Lower special charges as well as higher special income accounted for  $\epsilon$ 1,210 million of this increase of  $\epsilon$ 2,032 million. On a comparable basis, income from operations contributed  $\epsilon$ 588 million and the financial result  $\epsilon$ 234 million to an increase of  $\epsilon$ 822 million.

## Extraordinary Income

There was no extraordinary income in 2002. The high extraordinary income in the previous year of €6,121 million, or €5,976 million net of taxes, resulted from the sale of our pharmaceuticals business to Abbott Laboratories Inc., Abbott Park, Illinois.

## Net Income/Earnings Per Share

Income before taxes and minority interests was €2,641 million and the tax expense was €1,042 million, or 39.5%. After deducting these taxes and minority interests of €95 million, net income in 2002 was €1,504 million. In comparison with the previous year, in which there was a loss of €118 million excluding extraordinary income, net income rose by €1,622 million.

Earnings per share in 2002 were  $\[ \in \]$ 2.60 compared with ordinary earnings per share of  $\[ \in \]$ 0.20) in the previous year. In addition, there was extraordinary income per share of  $\[ \in \]$ 9.92 in the previous year. In 2002, net income in accordance with U.S. GAAP was  $\[ \in \]$ 1,717 million or  $\[ \in \]$ 2.96 per share compared with  $\[ \in \]$ 5,692 million or  $\[ \in \]$ 9.45 per share in 2001.

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## Chemicals

# Segment data (euros in millions)

			% Change from Previous			% Change from Previous		
		2003	Year		2002	Year		2001
Sales to third parties	€	5,752	8.2	€	5,317	18.3	€	4,494
Thereof Inorganics	€	738	6.2	€	695	(2.7)	€	714
Petrochemicals	€	3,264	12.5	€	2,902	39.6	€	2,079
Intermediates	€	1,750	1.7	€	1,720	1.1	€	1,701
Intersegmental transfers		2,680	3.2		2,598	6.0		2,452
Sales incl. intersegmental transfers		8,432	6.5		7,915	14.0		6,946
Income from operations		393	(38.1)		635	75.4		362
Special items		(107)			(41)	34.9		(63)
Operating margin (%)		6.8	(42.9)		11.9	46.9		8.1
Assets	€	4,720	(5.5)	€	4,997	3.1	€	4,847
Return on operational assets (%)		8.1	(37.2)		12.9	61.3		8.0
Research and development expenses	€	108	10.2	€	98	(10.1)	€	109
Capital expenditures on tangible and intangible assets	€	527	6.5	€	495	(46.7)	€	929

The Chemicals segment is comprised of the Inorganics, Petrochemicals and Intermediates divisions. As of July 1, 2001, the former Specialty Chemicals operating division was dissolved and the strategic business units of glycols, alkylene oxides as well as ethylene and propylene oxides were transferred to the Petrochemicals operating division. The other activities of the Specialty Chemicals operating division

were allocated to the Performance Products operating division. The previous year's segment data have been restated.

## 2003 Compared with 2002

#### Segment Overview

In 2003, we increased sales to third parties by  $\le$ 435 million compared with the previous year to  $\le$ 5,752 million (volumes 12.0%, portfolio 0.7%, prices 5.0%, currency -9.5%). Higher sales volumes made a major contribution to growth in all three divisions, in particular in the Petrochemicals division.

Income from operations declined by  $\[ \in \]$  242 million to  $\[ \in \]$  393 million. All three divisions where affected. This was due mainly to the weak U.S. dollar, continuing overcapacities for a number of products, and increasing pressure on margins. Modernization measures, scheduled plant maintenance and startup costs for our investment projects in Asia also had a negative impact on income from operations.

We are expecting to achieve higher sales and income from operations in 2004 by raising prices.

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#### **Inorganics**

We increased sales to third parties in 2003 by €43 million to €738 million (volumes 3%; acquisition of Callery Chemical 3%, prices 3%, currency -3%).

Income from operations decreased in comparison with the previous year. This was due to a decline in margins for basic inorganic chemicals, inorganic specialties and electronic grade chemicals as a result of negative price and currency effects. These effects could not be fully offset by higher sales volumes of glues, impregnating resins and catalysts. The conversion of part of the chlorine production facilities to an energy-efficient membrane technology as well as other modernization measures at the Ludwigshafen site had a negative impact on income from operations but will lead to an improvement in income from 2004 onward.

The acquisition of Callery Chemical from the Mine Safety Appliances Company (MSA) completed in mid-September 2003, has expanded our profitable and fast-growing business with inorganic specialties. With this acquisition we have expanded our range of alcoholates and boron compounds and have added potassium specialties to our portfolio.

In 2004, we expect higher sales and a slight improvement in income from operations from factors including the Callery Chemical acquisition. We aim to continue expanding our profitable business areas in innovative specialties such as heterogeneous catalysts, electronic grade chemicals and powder injection molding technology.

## **Petrochemicals**

In 2003, we increased sales to third parties by & 362 million to & 3,264 million (volumes 16%, portfolio 1%, prices 8%, currency -12%). Cracker products in Europe were an important factor in this increase. Sales of alkylene oxides and glycols also rose. We maintained the previous year's level of sales for plasticizers and solvents.

Income from operations remained below the previous year's level despite the increase in sales. Prices for raw materials, especially crude oil and naphtha, were very volatile and rose over the course of the year, as was the case for natural gas and energy. We were unable to increase our sales prices sufficiently and quickly enough, and margins therefore declined. The cost of plant shutdowns for scheduled maintenance and technical problems at our steam cracker in Port Arthur, Texas, also had a negative impact on income from operations.

Capital expenditures increased slightly compared with the previous year. In Port Arthur, Texas, together with our partners ATOFINA and Shell, we built a  $C_4$  complex for metathesis, inalkylation and butadiene extraction that is scheduled to start operations in 2004. Together with our partner SINOPEC, Beijing, China, we are investing in our new Verbund site in Nanjing, China, which is scheduled to begin operations in 2005.

We are expecting higher sales in 2004 and higher income from operations by improving margins.

#### <u>Intermediates</u>

In 2003, sales to third parties increased by  $\leq$ 30 million to  $\leq$ 1,750 million (volumes 9%, prices 1%, currency -8%). We increased volumes of amines, diols and polyalcohols in particular.

Income from operations was well below the previous year's level and was negatively impacted by significantly higher raw materials prices, in particular for natural gas and butadiene. The increasing weakness of the U.S. dollar intensified competitive pressure from the U.S. dollar zone in all regions. European competitors lowered prices because of insufficient capacity utilization. This resulted in a decline in margins for our products. Income from operations also contains charges for startup costs for investment projects in Asia as well as impairment charges for production plants.

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The higher level of capital expenditures compared with the previous year related primarily to projects in China: We are building integrated production plants for THF and PolyTHF® in Caojing and plants for methylamine, dimethylformamide, formic acid and propionic acid in Nanjing, China.

In 2004, we expect higher sales, especially in Asia, and higher income from operations.

#### 2002 Compared with 2001

#### Segment Overview

In the Chemicals segment, sales to third parties increased in 2002 to €5,317 million from €4,494 million in 2001. Sales in the Intermediates division were slightly above the previous year's level, while sales in the Inorganics division were slightly lower. In the Petrochemicals division, sales increased substantially. This was due primarily to the startup of new production capacities, in particular the new steam cracker in Port Arthur, Texas. Higher sales volumes contributed 25.7% to the increase in sales. Price and currency fluctuations had a negative effect of 9.6%.

Intersegmental transfers increased 6.0% from €2,452 million in 2001 to €2,598 million in 2002.

Income from operations rose in 2002 by 75.4% to  $\le$ 635 million, compared with  $\le$ 362 million in 2001. The increase in earnings resulted primarily from higher sales volumes and a corresponding improvement in capacity utilization at our production facilities, significantly lower startup costs for new plants and the restructuring and cost-cutting measures introduced in 2001, which are beginning to take effect. All divisions reported higher earnings compared with 2001, with Petrochemicals posting the largest increase.

Special items in the Petrochemicals division related to the closure of two ethylene oxide plants and one glycol plant at the site in Geismar, Louisiana.

Through the increase in inventories and receivables, assets increased 3.1% from €4,847 million in 2001 to €4,997 million in 2002. We further optimized our production activities in Europe and North America by closing unprofitable plants and investing in profitable, new production facilities. In the growing Asian market, we will achieve another milestone in the development and expansion of local production facilities with the forthcoming completion of the butanediol plant at our Verbund site in Kuantan, Malaysia.

## Inorganics

In the Inorganics division, sales to third parties in 2002 declined 2.7% to €695 million from €714 million in 2001. Despite a difficult business environment, we increased sales volumes 6%. In most product lines our selling prices declined on average by 9%. Sales of catalysts, glues, impregnating resins and basic inorganic chemicals were below the previous year's levels, but sales of inorganic specialties and electronic grade chemicals were higher due to higher sales volumes.

Income from operations improved compared with the previous year.

In 2002, we again achieved high capacity utilization rates in our plants for large-volume inorganic products, which form an important foundation for most of BASF's value-adding chains. Through such economies of scale, we were able to supply the Ludwigshafen and Antwerp Verbund sites cost-effectively. To consolidate and extend our cost leadership in the Inorganics division, we began in 2002 to refit a world-scale chlorine plant to use a state-of-the-art membrane process.

In addition to large-volume inorganic products, our product range includes innovative specialties such as heterogeneous catalysts, electronic grade chemicals and powder injection molding technology. We will continue to expand these profitable business areas in the future.

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#### **Petrochemicals**

In the Petrochemicals division, sales to third parties in 2002 increased to €2,902 million and were 39.6% higher than in 2001. We were able to increase sales in all product lines. Sales volumes were stable throughout the year and therefore capacity utilization at our plants was generally high. In addition, the startup of the steam cracker in Port Arthur, Texas, in December 2001 and the expansion of the cracker in Antwerp, Belgium, led to increased sales volumes. Higher volumes led to a 49% increase in sales, whereas price and currency fluctuations reduced sales by 11%.

Income from operations rose significantly. This was due to higher volumes in all product lines and regions. In addition, earnings were no longer burdened by high startup costs for the steam cracker in Port Arthur, Texas, and the new plants in Kuantan, Malaysia. Special items were also lower. Special charges of €25 million in 2002 related in particular to the closure of two ethylene oxide plants and one ethylene glycol plant at the site in Geismar, Louisiana.

We substantially expanded business volumes in cracker products. Rising crude oil prices and naphtha costs could be passed on to the market only in the first half of the year.

Sales and earnings in plasticizers and solvents exceeded the previous year's levels. However, the markets for both product lines continue to suffer from excess capacity and, as a result, from strong price and margin pressures. We will address these challenges with significant cost reductions through further rationalization and closure of production plants. In June, we started production of our new product Hexamoll® DINCH, a plasticizer for use in applications with stringent requirements such as foodwrap, medical devices and toys. This new product was favorably received by our customers.

Business in the alkylene oxides and glycols product line picked up considerably in Europe due to the expansion of ethylene oxide capacity in Antwerp, Belgium. Earnings improved as a result of high capacity utilization. In the United States, we closed underperforming production plants in Geismar, Louisiana, and are exiting gradually from the ethylene glycol business in this region.

In 2002, capital expenditures were significantly lower compared with the high levels in recent years associated with major projects in Kuantan, Malaysia; Port Arthur, Texas; and Tarragona, Spain. Important ongoing projects are the metathesis and butadiene extraction plant in Port Arthur, Texas, which is scheduled to start operations in late 2003 or early 2004, as well as investments at our new Verbund site in Nanjing, China, which we are developing together with our partner SINOPEC.

## **Intermediates**

Business with intermediates recovered in 2002, in particular in Europe and Asia, after a modest second half of 2001. Sales to third parties in 2002 increased by  $\in$ 19 million to  $\in$ 1,720 million. Increased volumes contributed 6% to the increase in sales. Price and currency fluctuations accounted for an 8% reduction in sales. Translated to euros, the weak U.S. dollar more than offset price increases.

Income from operations improved compared with 2001. This improvement could be traced in part to higher sales volumes for our products as well as to the normalization of natural gas prices in North America, which were high at the beginning of 2001. The availability of many of our products was restricted due to production problems at some of our competitors and plant shutdowns in Ludwigshafen, Germany, and Feluy, Belgium, related to maintenance or expansion measures.

Capital expenditures were lower than in the previous year. Numerous projects were completed in 2002. In particular, we started operations at new plants for PolyTHF® (polytetrahydrofuran), specialty amines and glyoxal in Ludwigshafen. In Freeport, Texas, we expanded our Neol®

#### **Plastics**

# Segment data (euros in millions)

			% Change from Previous			% Change from Previous		
		2003	Year		2002	Year		2001
Sales to third parties	€	8,787	3.7	€	8,477	3.6	€	8,185
Thereof Styrenics	€	3,626	7.1	€	3,387	3.7	€	3,267
Performance Polymers	€	2,239	(1.4)	€	2,270	1.3	€	2,241
Polyurethane	€	2,922	3.6	€	2,820	5.3	€	2,677
Intersegmental transfers		541	24.1		436	7.4		406
Sales incl. intersegmental transfers		9,328	4.7		8,913	3.7		8,591
Income from operations		296	(49.1)		582			(2)
Special items		(67)			(11)	94.0		(182)
Operating margin (%)		3.4	(50.7)		6.9			*
Assets	€	5,598	(9.3)	€	6,174	(2.7)	€	6,344
Return on operational assets (%)		5.0	(46.2)		9.3			*
Research and development expenses	€	142	2.9	€	138	(5.5)	€	146
Capital expenditures on tangible and intangible assets	€	539	(15.3)	€	636	(28.6)	€	891

negative

The Plastics segment comprises the Styrenics, Performance Polymers and Polyurethanes divisions. As of July 1, 2001, the former operating divisions of Engineering Plastics and Fiber Products were merged to create the Performance Polymers operating division. The previous year's segment data have been restated. On May 1, 2003 BASF took over the worldwide engineering plastics business of Honeywell International, Morris Township, New Jersey, and transferred its worldwide nylon fibers business to Honeywell. At the same time the segment was renamed Plastics.

## 2003 Compared with 2002

## Segment Overview

Sales to third parties rose by €310 million to €8,787 million in 2003 (volumes 9.2%, portfolio -0.9%, prices 4.6%, currency -9.2%).

Compared with the previous year, income from operations fell by  $\[mathebox{\ensuremath{$\ell$}}\]$ 286 million to  $\[mathebox{\ensuremath{$\ell$}}\]$ 296 million. The Styrenics and Performance Polymers divisions posted significantly lower income from operations; the Polyurethanes division increased its income slightly. Income from operations in this segment mainly declined due to higher raw materials costs and the significant loss incurred in fiber intermediates.

Assets and capital expenditures were reduced in 2003. We lowered inventories and receivables. In 2004, we will continue to reposition our plastics business. As of December 31, 2003, we acquired the nylon 6,6 business of Ticona LLC, United States. This is part of the expansion of our engineering plastics business. The planned transfer of Styropor® production from South Brunswick, New Jersey, to our joint venture Polioles S.A. de C.V. in Altamira, Mexico, and the expansion of capacity there will improve our cost position in styrenics.

For 2004, we expect sales at the previous year's level and an improvement in income from operations.

#### Styrenics

Sales to third parties in 2003 rose by  $\le$ 239 million to  $\le$ 3,626 million (volumes 7%, prices 10%, currency -10%). In particular, higher sales volumes of styrene monomers contributed to the increase in sales.

Income from operations declined significantly compared with the previous year. We significantly increased prices for polymers but were not able to pass on higher raw materials costs to our customers to a sufficient extent. This was due mainly to excess capacity and the resulting pressure on margins.

In 2003, we continued to improve our production structures: At the end of the year, we started operations at a world-scale Styrolux® plant in Altamira, Mexico. Since the European market is supplied entirely from the Styrolux® plant in Antwerp, we were able to shut down the Styrolux® plant in Ludwigshafen. We took the first steps toward our exit from the polystyrene compounds business in Europe. In addition, we have decided to transfer Styropor® production at our site in South Brunswick, New Jersey, to Altamira, Mexico, where we already operate a Styropor® plant in a joint venture.

In 2004, we expect to maintain our sales level and improve income from operations. We aim to do this by further reducing costs, streamlining our portfolio and by simplifying business processes.

#### Performance Polymers

In 2003, sales to third parties declined slightly by €31 million to €2,239 million (volumes 5%, portfolio -2%, prices 3%, currency -7%).

Despite a substantial reduction of fixed costs, income from operations was negative. The drastic rise in raw materials costs in 2003 could not be passed on to our customers to a sufficient extent because they were affected by the weak economy. Moreover, the decline in the value of the U.S. dollar led to a lower earnings contribution from our exports to Asia out of Europe. Income from operations was severely affected by completely unsatisfactory margins for nylon fiber intermediates, sales of which are largely to the cyclical carpet and textile industries. On the other hand, despite weak demand for automobiles, we successfully expanded our nylon engineering plastics business, mainly through the acquisition of the injection molding and extrusion business of Honeywell, United States, in April 2003.

Together with our joint venture partner Toray Industries, Japan, we plan to build a production facility for polybutylene terephthalate in Kuantan, Malaysia, to strengthen our business with engineering plastics, particularly in Asia. Effective December 31, 2003, we acquired nylon 6,6 business of Ticona LLC. United States.

We expect to increase sales and income from operations in 2004 on the basis of our optimized product portfolio and synergies from the integration of the businesses we acquired.

## **Polyurethanes**

In 2003, sales to third parties rose by  $\in$ 102 million to  $\in$ 2,922 million (volumes 15%, portfolio -1%, prices 0%, currency -10%). Sales volumes of our products increased especially in Asia and Europe.

We increased income from operations compared with 2002 despite very high raw materials costs and persistently unsatisfactory margins. This was due primarily to higher sales volumes of our products as well as increased productivity.

Capital expenditures were lower than in 2002 and mainly focused on Asia. At our integrated production site in Yeosu, South Korea, we built a world-scale production plant for TDI that operates using an improved process and which started operation in the third quarter of 2003. We have begun expanding the existing MDI facility in Yeosu, South Korea. This expanded facility will enable us to achieve an even greater share of growth in the Asian markets. At the end of 2003, we began the

construction of a new production site in Caojing, China. Working with our joint venture partners, we want to complete an additional integrated production facility for MDI and TDI within three years.

We expect improved sales and income from operations in 2004, as a result of strong growth in the polyurethanes market. We will also continue measures to improve our cost structure.

## 2002 Compared with 2001

#### Segment Overview

Income from operations rose to €582 million, compared with a loss of €2 million in 2001. All three divisions contributed significantly to the increase in earnings, which was due in particular to much stronger demand and correspondingly good capacity utilization, the closure of underperforming plants started in 2001, and a reduction in fixed costs. Earnings also improved due to a significantly lower level of special items.

Capital expenditures were lower than in 2001.

At the beginning of 2003 agreements were signed with Honeywell International Inc., Morris Township, New Jersey, to acquire their engineering plastics business and sell our nylon fibers business to Honeywell. Through these portfolio swaps, we are further strengthening our position as a leading international supplier of engineering plastics. The two transactions are likely to be neutral with regard to sales and earnings in 2003.

## **Styrenics**

In the Styrenics division, sales to third parties rose 3.7% in 2002 to €3,387 million compared with €3,267 million in the previous year. Sales increased due to significantly higher demand compared with 2001 in the face of negative price/currency effects.

Income from operations increased considerably in 2002. This was due primarily to higher capacity utilization. The second and third quarters in 2002 were affected by rising raw material costs as well as a worldwide shortage of styrene. The higher raw material costs could not be passed on in full to the market. Asia was the largest growth market for styrene. Overall, we significantly improved income from operations compared with 2001 in all major regions.

A Styrodur® plant was closed in Antwerp, Belgium. Production was transferred to a new plant that can be operated with lower production and logistic costs started operations in Tarragona, Spain. The replacement plants for ethyl benzene/styrene at the Ludwigshafen site started operations at the end of 2002 and will ensure more efficient supplies of styrene.

## Performance Polymers

In the Performance Polymers division, sales to third parties in 2002 rose by 1.3% to €2,270 million from €2,241 million in 2001. Sales volumes increased by 9%, in particular due to increasing demand for nylon 6 precursors as well as the continuing expansion of our worldwide engineering plastics business. Prices remained under pressure, largely due to the strength of the euro, which was unfavorable for our export business.

As a result of the restructuring measures we introduced in 2001 and continued in 2002, we have significantly reduced fixed costs, especially in the NAFTA region. The scheduled shutdown of

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Ultraform® production in the United States and the sale of our industrial fibers business (Basofil®) will support this trend and allow for a further improvement in earnings.

High capacity utilization at our production plants also contributed to the improvement in income from operations.

At the beginning of 2003 agreements were signed with Honeywell International Inc., Morris Township, New Jersey, to acquire their engineering plastics business and sell our nylon fibers business to Honeywell.

## **Polyurethanes**

In the Polyurethanes division, sales to third parties in 2002 increased by 5.3% to €2,820 million from €2,677 million in 2001. Volume growth compared with 2001 contributed 12% to the increase in sales. Demand for polyurethanes rose, in particular in Asia and the United States. Price and currency fluctuations accounted for a 7% reduction in sales.

Income from operations increased compared with 2001 despite high raw material costs and persistently unsatisfactory margins. Productivity increases and cost-cutting measures contributed to earnings in addition to the development in sales volumes. We were able to improve our cost structure through the new TDI (toluene diisocyanate) plant in Geismar, Louisiana, which started operations in May 2002 and replaced an old plant. We will be able to reduce costs further in 2003, the first full year of plant operation.

In addition to the TDI plant in the United States, the largest capital expenditures in the Polyurethanes division were the expansion of our MDI (diphenylmethane diisocyanate) plant in Antwerp, Belgium, which came onstream in late 2002, and the construction of an SM/PO (styrene monomer/propylene oxide) plant in Singapore, by the ELLBA Eastern (Pte.) Ltd. joint venture with Shell. This plant started operations in the second half of 2002 and is intended to significantly improve supplies of propylene oxide in Asia.

## **Performance Products**

# Segment data (euros in millions)

			% Change from Previous			% Change from Previous		
		2003	Year		2002	Year	2	2001
Sales to third parties	€	7,633	(4.8)	€	8,014	(1.7)	€	8,154
Thereof Performance Chemicals	€	3,147	(5.9)	€	3,343	(0.1)	€	3,345
Coatings	€	2,015	(5.7)	€	2,137	(6.6)	€	2,287
Functional Polymers	€	2,471	(2.5)	€	2,534	0.5	€	2,522
Intersegmental transfers		301	(7.7)		326	1.2		322
Sales incl. intersegmental transfers		7,934	(4.9)		8,340	(1.6)		8,476
Income from operations		478	(26.0)		646			99
Special items		(90)	(11.9)		(7)	97.7		(298)
Operating margin (%)		6.3	(22.2)		8.1			1.2
Assets	€	4,656	(10.8)	€	5,218	(13.7)	€	6,048
Return on operational assets (%)		9.7	(15.7)		11.5			1.6
Research and development expenses	€	240	8.1	€	222	12.7	€	197
Capital expenditures on tangible and intangible assets	€	236	(18.1)	€	288	(31.1)	€	418
		84						

Performance Products segment consists of the Performance Chemicals, Coatings and Functional Polymers divisions. In 2001, the business segment Colorants & Finishing Products was renamed Performance Products. As of July 1, 2001, the former operating divisions Dispersions, Colorants as well as some parts of Specialty Chemicals were combined to form the operating division Performance Chemicals.

## 2003 Compared with 2002

#### Segment Overview

Compared with 2002, sales to third parties declined  $\in$ 381 million to  $\in$ 7,633 million (volumes 1.9%, portfolio 0.3%, prices -0.1%, currency -6.9%). All divisions were affected by the decline in sales, which was primarily due to negative currency effects and a difficult business environment in some customer industries. In addition, persistent pressure on prices reduced sales in the Performance Chemicals and Coatings divisions.

Income from operations fell  $\in$ 168 million to  $\in$ 478 million. This was predominantly caused by the weak U.S. dollar and higher raw materials costs which could not be offset fully by price increases. Restructuring measures also reduced income from operations. The implementation of cost-reduction measures and our focus on more profitable products were unable to offset the negative effects on income.

In 2003, the segment's assets fell by €562 million to €4,656 million. Capital expenditures were considerably lower than the level of depreciation and amortization. We significantly reduced inventories and receivables.

In 2004, we anticipate a slight increase in sales and a significant improvement in income from operations due to cost-reduction measures.

#### Performance Chemicals

At  $\in$ 3,147 million, sales to third parties were  $\in$ 196 million lower than in 2002 due to currency translation effects (volumes 0%, portfolio 1%, prices -1%, currency -6%).

Income from operations fell short of the previous year's strong level, both overall and in all business areas with the exception of printing systems. Demand for our products remained generally unsatisfactory due to the difficult economic situation. Because of the decline in the value of the U.S. dollar, our exports to North America (NAFTA) and South America resulted in much lower income in euro terms. Asian currency weakness likewise led to a decline in income from operations, even though we increased sales volumes in the region, especially for textile and leather chemicals.

In May 2003, we acquired the medium molecular weight polyisobutylenes business—substances employed in chewing gum, adhesives, sealants and films—from ExxonMobil Chemical, United States. Through this acquisition, we have expanded our product range and increased capacity utilization by being able to supply new customers.

We reduced inventories and receivables.

In 2004, we expect sales to rise. We also aim to improve income from operations by continuing to lower our fixed costs and by raising margins.

#### **Coatings**

Sales to third parties in 2003 fell by  $\[ \le \]$ 122 million to  $\[ \le \]$ 2,015 million (volumes 5%, prices -2%, currency -9%). The negative currency effect was due to the devaluation of the U.S. dollar, South American currencies and the Japanese yen.

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We increased income from operations compared with the previous year despite the difficult economic situation and the cost of restructuring measures we have initiated, in particular for our industrial coatings business in Europe. We improved our income from automotive coatings despite a decline in automobile production in Europe, NAFTA and Japan. We achieved this success through effective service concepts, which enable us to optimize total coating process costs for our customers and to increase our profits. In refinish coatings, we achieved stable, adequate margins in a stagnating market. In South America, we strengthened our market leadership in decorative paints with our Suvinil® brand.

We expect increased sales and income from operations in 2004. We are expanding our presence in the growth markets of Eastern Europe and China. In addition, we are restructuring our industrial coatings business and continuing measures to increase efficiency in all regions and business units.

## Functional Polymers

Income from operations declined compared with the previous year due primarily to unsatisfactory earnings in the first half of 2003. It was not possible to pass on higher raw material costs quickly and to the full extent by increasing prices. Income declined in particular in our superabsorbents and paper chemicals businesses. Our market development and cost reduction efforts could not offset the decline in income.

In Nanjing, China, we continued the construction of our second Verbund site in the Asian growth region. Production of acrylic acid and acrylic esters at this site is scheduled to start in 2005.

We reduced inventories and receivables.

In 2004, we expect higher sales and an increase in income from operations due to improved margins and lower fixed costs.

## 2002 Compared with 2001

## Segment Overview

Sales to third parties in the Performance Products segment declined 1.7% in 2002 to €8,014 million, compared with £8,154 million in 2001. Higher sales volumes led to a 6.1% increase in sales, in particular in the Performance Chemicals and Functional Polymers divisions. Ongoing price pressure and negative currency effects in all divisions reduced sales by 7.8%.

Income from operations rose from  $\notin$ 99 million in 2001 to  $\notin$ 646 million in 2002. This was due to significantly lower special items, an improved cost structure due to the restructuring measures introduced in 2001, and portfolio optimization with a focus on more profitable products.

In 2002, assets in the segment declined to  $\in
 5,218$  million from  $ext{$\in
 ext{$6,048$ million in 2001. Depreciation was in excess of capital expenditures.} Inventories and receivables were reduced.$ 

# Performance Chemicals

Despite the difficult global economic climate, sales to third parties of 3,343 million remained just below previous year's level of €3,345 million. Growth was strong in Asia. In South America, sales declined due to the currency crises in Brazil and Argentina, as well as to the difficult economic environment. A 7% increase in sales volumes was offset by negative price and currency effects, in particular the strengthening of the euro against the U.S. dollar.

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All business units contributed to a significant increase in income from operations.

In performance chemicals for coatings, plastics and specialties, we maintained business at a satisfactory level despite intense competition. Our printing plates business grew against the market trend. We have widened our product range for the automotive and oil industry and increased production through cost-effective capacity expansions. Our plants for products for the detergents and cleaning agents industry are operating at a high level of capacity utilization. Despite significant expansion in Asia, sales of textile and leather chemicals declined slightly overall.

We reduced working capital through our efforts to lower inventory levels and a decline in receivables.

## **Coatings**

In the Coatings division, sales to third parties in 2002 declined 6.6% to £2,137 million compared with £2,287 million in 2001. Sales volumes were below the previous year's level, mainly because our decorative paint customers in South America reduced their inventories during the first half of the year. Overall, we were able to increase prices slightly. The decline in sales was due primarily to currency effects, in particular the devaluation of the Brazilian real as well as the weakening of the U.S. dollar and the Japanese yen against the euro.

Trends in our business units were as follows: Automotive (OEM) coatings performed well at a high level despite a decline in automobile production. This success can be ascribed to tried and tested service concepts through which we expand cooperation with our customers and optimize the total costs of the coating process. Further, our success is based on the market launch of innovative and eco-efficient products, such as our new cathodic dip coating Cathoguard® 500. Automotive refinish coatings are a strong pillar of our coatings business. Here, we have stabilized our good position with our new Glasurit® and R-M® global brands. Our newly launched Salcomix® mixing system rounds out our portfolio. In industrial coatings, restructuring and innovation were the top priorities. This applies to production, marketing and sales as well as customer and portfolio management. Our efforts have improved our cost structures. In South America, we have solidified the leading position of our Suvinil® brand in the market for decorative paints.

Compared with the previous year, we were able to improve income from operations substantially in all business units through measures to improve efficiency, cost reductions and restructuring. An important contribution came from a reduction in fixed costs compared with 2001, in particular in our industrial coatings business in Europe. Devaluation losses in Argentina burdened earnings.

## Functional Polymers

In the Functional Polymers division, sales to third parties in 2002 increased by 0.5% to 0.5% to 0.5% amillion from 0.5% million in 2001. Higher sales volumes contributed to an 11% increase in sales, which was largely offset by negative price and currency effects of a 10%. We were able to substantially increase sales volumes in all product groups, in particular in acrylic monomers, paper coating binders and dispersions for the construction industry. In Asia, the increase in sales volumes was larger than in the other regions.

We were able to improve income from operations considerably compared with the previous year, despite continued strong competitive pressure due to global excess capacity. The restructuring measures we completed had a particularly positive effect on earnings.

In Nanjing, China, we laid the foundation stone for BASF's second Verbund site in the Asian growth region. We expect to start producing acrylic acid and acrylic esters at this site in 2005. In Hamina, Finland, we started operations at a new plant for paper coating binders, which will allow us to supply the

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important Scandinavian market from production in the region. We also successfully brought our new superabsorbents plant in Antwerp, Belgium, onstream.

## **Agricultural Products & Nutrition**

The Agricultural Products & Nutrition segment comprises the Agricultural Products division and the Fine Chemicals division. For reporting purposes each division is considered a reportable segment. The following data relate to the divisions.

## **Agricultural Products**

# Segment data (euros in millions)

			% Change from Previous			% Change from Previous	
		2003	Year		2002	Year	2001
Sales to third parties	€	3,176	7.5	€	2,954	(15.1)	3,478
Intersegmental transfers		24	14.3		21	(30.0)	30
Sales incl. intersegmental transfers		3,200	7.6		2,975	(15.2)	3,508
Income from operations		234	283.6		61	238.9	18
Special items		(60)	(57.9)		(38)	79.1	(182)
Operating margin (%)		7.4	252.4		2.1	320.0	0.5
Assets	€	5,523	8.5	€	5,092	(20.2)	€ 6,377
Return on operational assets (%)		4.4	300.0		1.1	266.7	0.3
Research and development expenses	€	239	(16.1)	€	285	(17.4)	€ 345
Capital expenditures on tangible and intangible assets 2003 Compared with 2002	€	1,133		€	88	(32.3)	E 130

Sales in 2003 rose €222 million to €3,176 million (volumes 5.7%, portfolio 9.8%, prices 1.0%, currency -9.0%). This increase was due to the successful market introduction of our new fungicide F 500®, the products acquired in March 2003 from Bayer CropScience comprising the insecticide fipronil and selected fungicides as well as the improved economic environment in South America. These influences offset negative currency effects from the appreciation of the euro against the U.S. dollar and other currencies.

In Europe, sales climbed 10% to  $\[ \le 1,447 \]$  million. Despite higher sales in local currencies primarily due to the successful launch of new products , sales in North America declined 6% to  $\[ \le 892 \]$  million because of the stronger euro. In South America, despite negative currency effects, we increased sales 55% to  $\[ \le 520 \]$  million thanks to new products and an improved market environment. In Asia, sales decreased 11% to  $\[ \le 317 \]$  million.

In 2003, we improved income from operations by  $\in$ 173 million to  $\in$ 234 million. Special items of  $\in$ 60 million from the integration of the business acquired from Bayer CropScience had a negative effect on income. These special items were primarily related to the use of inventory stepped-up to higher market values. Other special charges were offset by the sale of our soil improvement products business to Kanesho Soil Treatment BVBA, Belgium, for  $\in$ 65 million.

Assets rose by €431 million to €5,523 million primarily due to the acquisition of the insecticide fipronil and selected fungicides from Bayer CropScience for €1,185 million (including inventories).

Research and development expenses were reduced by €46 million to €239 million. We achieved this mainly by realizing synergies from the integration of the crop protection business that we acquired in

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2000 from American Home Products, United States, for example by closing research sites. As a percentage of sales, research expenses declined to 7.5% from 9.6% in 2002. We have further strengthened our active ingredient research for insecticides and fungicides and have reduced our herbicide research activities because there are fewer opportunities in this market.

In 2004, we expect sales and income after currency effects to improve in a market that continues to be intensely competitive. The launch of new products will contribute to this improvement, as will the acquired products' full contribution to sales and income.

## 2002 Compared with 2001

Sales in the Agricultural Products segment in 2002 were €2,954 million, compared with €3,478 million in 2001 (volumes -12%, prices/currency -3%). Sales volumes declined in particular in North and South America. The negative price and currency effects were due primarily to the weakening of the U.S. dollar against the euro and the devaluation of the Brazilian real.

Sales development differed considerably from region to region. In North America, sales declined 25% to &6945 million due to lower sales volumes and negative currency effects. In South America, we reduced our credit risk by maintaining our restrictive sales policy in Argentina and by repurchasing inventory from the market in Brazil. Sales in South America declined 38% to &6335 million as a result of these measures and negative currency effects. Sales in Europe rose by 4.3% to &61.320 million, while in Asia they declined 13% to &6354 million.

In 2002, we achieved income from operations of  $\le$ 61 million, compared with  $\le$ 18 million in 2001, thereby improving income from operations by  $\le$ 43 million. Special items reduced earnings by  $\le$ 38 million. Our earnings situation is unsatisfactory and a series of measures have been introduced to improve it significantly.

In 2002, capital employed was reduced to a total of  $\in$ 5,092 million from  $\in$ 6,377 million in 2001. This was due in particular to a reduction of inventories and receivables as well as a decline in non-current assets by scheduled amortization and depreciation, which exceeded capital expenditures.

Expenses for research and development declined 17.4% to €285 million following the closure of the research center in Princeton, New Jersey; as a percentage of sales, these expenses declined from 9.9% to 9.6%.

Following the integration of the crop protection business acquired from American Home Products Corp. (AHP) in 2000, we realized annual integration synergies of more than  $\le$ 250 million for the first time in 2002. In 2003, we will introduce measures to further reduce costs by approximately  $\le$ 100 million.

In the Agricultural Products division, an agreement was reached on October 28, 2002 to acquire the insecticide fipronil and a series of fungicides from Bayer CropScience AG. The acquisition is subject to approval by the relevant antitrust authorities.

# **Fine Chemicals**

# Segment data (euros in millions)

			% Change from Previous		% Change from Previous	
		2003	Year	2002	Year	2001
Sales to third parties	€	1,845	(6.3) €	1,970	(0.7)	€ 1,984
Intersegmental transfers		20	(44.4)	36		