



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

(Mark One)  
 **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended 31 March 2005

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-4534

**AIR PRODUCTS AND CHEMICALS, INC.**

(Exact Name of Registrant as Specified in Its Charter)

Delaware  
(State or Other Jurisdiction of Incorporation or Organization)

23-1274455  
(I.R.S. Employer Identification No.)

7201 Hamilton Boulevard, Allentown, Pennsylvania  
(Address of Principal Executive Offices)

18195-1501  
(Zip Code)

610-481-4911  
(Registrant's Telephone Number, Including Area Code)

Not Applicable  
(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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  No

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Yes  No

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class  
Common Stock, \$1 par value

Outstanding at 15 April 2005  
229,275,839

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries  
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**BASIS OF PRESENTATION:**

The consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries (the “company” or “registrant”) included herein have been prepared by the company, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted pursuant to such rules and regulations. In the opinion of the company, the accompanying statements reflect adjustments necessary to present fairly the financial position, results of operations and cash flows for those periods indicated, and contain adequate disclosure to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the notes to consolidated financial statements. However, the interim results for the periods indicated herein do not reflect certain adjustments, such as the valuation of inventories on the LIFO cost basis, which can only be finally determined on an annual basis. The consolidated financial statements included herein should be read in conjunction with the financial statements and notes thereto included in the company’s latest annual report on Form 10-K in order to fully understand the basis of presentation.

Results of operations for interim periods are not necessarily indicative of the results of operations for a full year. Reference the 2005 Outlook included on pages 27-29 in Management’s Discussion and Analysis of Financial Condition and Results of Operations. Risk factors that could impact results are discussed under Forward-Looking Statements on page 31.

**PART I. FINANCIAL INFORMATION****Item 1. Financial Statements****AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries****CONSOLIDATED BALANCE SHEETS  
(Unaudited)**

(Millions of dollars, except for share data)

	31 March 2005	30 September 2004
<b>ASSETS</b>		
<b>CURRENT ASSETS</b>		
Cash and cash items	\$ 410.9	\$ 146.3
Trade receivables, less allowances for doubtful accounts	1,490.9	1,454.7
Inventories	525.4	505.9
Contracts in progress, less progress billings	66.9	71.3
Other current assets	277.1	238.7
<b>TOTAL CURRENT ASSETS</b>	<b>2,771.2</b>	<b>2,416.9</b>
<b>INVESTMENTS IN NET ASSETS OF AND ADVANCES TO EQUITY AFFILIATES</b>		
PLANT AND EQUIPMENT, at cost	12,752.1	12,201.5
Less accumulated depreciation	6,906.1	6,499.3
<b>PLANT AND EQUIPMENT, net</b>	<b>5,846.0</b>	<b>5,702.2</b>
<b>GOODWILL</b>	<b>916.9</b>	<b>830.5</b>
<b>INTANGIBLE ASSETS, net</b>	<b>102.4</b>	<b>101.4</b>
<b>OTHER NONCURRENT ASSETS</b>	<b>398.0</b>	<b>359.6</b>
<b>TOTAL ASSETS</b>	<b>\$ 10,707.3</b>	<b>\$ 10,040.4</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
<b>CURRENT LIABILITIES</b>		
Payables and accrued liabilities	\$ 1,321.3	\$ 1,319.6
Accrued income taxes	127.6	105.9
Short-term borrowings	47.6	35.4
Current portion of long-term debt	348.9	244.7
<b>TOTAL CURRENT LIABILITIES</b>	<b>1,845.4</b>	<b>1,705.6</b>
<b>LONG-TERM DEBT</b>	<b>2,115.0</b>	<b>2,113.6</b>
<b>DEFERRED INCOME &amp; OTHER NONCURRENT LIABILITIES</b>	<b>864.4</b>	<b>820.3</b>
<b>DEFERRED INCOME TAXES</b>	<b>786.3</b>	<b>788.0</b>
<b>TOTAL LIABILITIES</b>	<b>5,611.1</b>	<b>5,427.5</b>
<b>MINORITY INTEREST IN SUBSIDIARY COMPANIES</b>	<b>186.1</b>	<b>168.9</b>
<b>SHAREHOLDERS' EQUITY</b>		
Common stock (par value \$1 per share, issued 2005 and 2004 – 249,455,584 shares)	249.4	249.4
Capital in excess of par value	595.6	551.8
Retained earnings	5,096.9	4,887.1
Accumulated other comprehensive income (loss)	(331.8)	(440.7)
Treasury stock, at cost (2005 – 20,268,322 shares; 2004 – 22,153,707 shares)	(700.0)	(764.8)
Shares in trust (2004 – 1,527,101 shares)	—	(38.8)
<b>TOTAL SHAREHOLDERS' EQUITY</b>	<b>4,910.1</b>	<b>4,444.0</b>
<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>\$ 10,707.3</b>	<b>\$ 10,040.4</b>

The accompanying notes are an integral part of these statements.

## AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries

CONSOLIDATED INCOME STATEMENTS  
(Unaudited)

(Millions of dollars, except for share data)

	Three Months Ended 31 March		Six Months Ended 31 March	
	2005	2004	2005	2004
SALES	\$ 2,003.3	\$ 1,856.5	\$ 3,994.3	\$ 3,541.4
COSTS AND EXPENSES				
Cost of sales	1,468.9	1,369.6	2,944.4	2,599.8
Selling and administrative	257.2	250.4	510.0	481.8
Research and development	33.1	32.0	66.2	62.0
Other (income) expense, net	(8.1)	(5.6)	(16.8)	(11.1)
OPERATING INCOME	252.2	210.1	490.5	408.9
Equity affiliates' income	25.2	22.0	50.7	41.6
Interest expense	29.8	32.3	57.6	63.2
INCOME BEFORE TAXES AND MINORITY INTEREST	247.6	199.8	483.6	387.3
Income tax provision	67.8	54.9	132.7	106.2
Minority interest (a)	4.5	3.7	8.8	8.1
NET INCOME	\$ 175.3	\$ 141.2	\$ 342.1	\$ 273.0
BASIC EARNINGS PER COMMON SHARE	\$ .77	\$ .63	\$ 1.51	\$ 1.23
DILUTED EARNINGS PER COMMON SHARE	\$ .75	\$ .62	\$ 1.47	\$ 1.20
WEIGHTED AVERAGE OF COMMON SHARES OUTSTANDING (in millions)	228.1	223.7	227.3	222.8
WEIGHTED AVERAGE OF COMMON SHARES OUTSTANDING ASSUMING DILUTION (in millions)	234.3	228.8	233.2	227.9
DIVIDENDS DECLARED PER COMMON SHARE – Cash	\$ .32	\$ .23	\$ .61	\$ .46

(a) Minority interest primarily includes before-tax amounts.

The accompanying notes are an integral part of these statements.

**AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries**  
**CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS**  
**(Unaudited)**

(Millions of dollars)

	Three Months Ended 31 March	
	2005	2004
<b>NET INCOME</b>	<b>\$ 175.3</b>	<b>\$ 141.2</b>
<b>OTHER COMPREHENSIVE INCOME, net of tax:</b>		
Net unrealized holding gain on investments, net of income tax of \$.5 and \$3.4	.9	5.6
Net unrecognized gain on derivatives qualifying as hedges, net of income tax of \$.5 and \$0	1.8	1.6
Foreign currency translation adjustments, net of income tax (benefit) of \$(12.2) and \$(26.6)	(33.4)	14.6
<b>TOTAL OTHER COMPREHENSIVE INCOME</b>	<b>(30.7)</b>	<b>21.8</b>
<b>COMPREHENSIVE INCOME</b>	<b>\$ 144.6</b>	<b>\$ 163.0</b>

(Millions of dollars)

	Six Months Ended 31 March	
	2005	2004
<b>NET INCOME</b>	<b>\$ 342.1</b>	<b>\$ 273.0</b>
<b>OTHER COMPREHENSIVE INCOME, net of tax:</b>		
Net unrealized holding gain on investments, net of income tax (benefit) of \$2.2 and \$3.5	3.7	5.7
Net unrecognized gain (loss) on derivatives qualifying as hedges, net of income tax (benefit) of \$(3.3) and \$.5	(5.1)	.5
Foreign currency translation adjustments, net of income tax of \$25.8 and \$22.9	110.3	71.0
<b>TOTAL OTHER COMPREHENSIVE INCOME</b>	<b>108.9</b>	<b>77.2</b>
<b>COMPREHENSIVE INCOME</b>	<b>\$ 451.0</b>	<b>\$ 350.2</b>

The accompanying notes are an integral part of these statements.

## AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS  
(Unaudited)

(Millions of dollars)

	Six Months Ended 31 March	
	2005	2004
<b>OPERATING ACTIVITIES</b>		
Net Income	\$ 342.1	\$ 273.0
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	356.5	351.0
Deferred income taxes	18.5	39.9
Undistributed earnings of unconsolidated affiliates	(27.3)	(25.6)
Gain on sale of assets and investments	(7.1)	—
Other	43.2	32.7
Subtotal	725.9	671.0
Working capital changes that provided (used) cash, excluding effects of acquisitions and divestitures:		
Trade receivables	4.6	(131.3)
Inventories and contracts in progress	(12.8)	(10.4)
Payables and accrued liabilities	(52.0)	(81.8)
Other	4.4	(75.5)
<b>CASH PROVIDED BY OPERATING ACTIVITIES</b>	<b>670.1</b>	<b>372.0</b>
<b>INVESTING ACTIVITIES</b>		
Additions to plant and equipment (a)	(427.7)	(327.7)
Investment in and advances to unconsolidated affiliates	(4.7)	(3.9)
Acquisitions, less cash acquired (b)	(58.6)	(44.8)
Proceeds from sale of assets and investments	34.1	9.3
Other	.3	(.5)
<b>CASH USED FOR INVESTING ACTIVITIES</b>	<b>(456.6)</b>	<b>(367.6)</b>
<b>FINANCING ACTIVITIES</b>		
Long-term debt proceeds	457.6	147.3
Payments on long-term debt	(396.3)	(152.3)
Net increase in commercial paper and short-term borrowings	5.1	74.0
Dividends paid to shareholders	(131.3)	(102.2)
Proceeds from stock option exercises	113.7	89.4
<b>CASH PROVIDED BY FINANCING ACTIVITIES</b>	<b>48.8</b>	<b>56.2</b>
Effect of Exchange Rate Changes on Cash	2.3	5.5
Increase in Cash and Cash Items	264.6	66.1
Cash and Cash Items - Beginning of Year	146.3	76.2
Cash and Cash Items - End of Period	\$ 410.9	\$ 142.3

(a) Excludes capital lease additions of \$2.3 and \$2.9 for 2005 and 2004, respectively.

(b) Excludes \$.6 of capital lease obligations assumed in acquisitions in 2005.

The accompanying notes are an integral part of these statements.

## AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries

SUMMARY BY BUSINESS SEGMENTS  
(Unaudited)

(Millions of dollars)

	Three Months Ended		Six Months Ended	
	2005	31 March 2004	2005	31 March 2004
<b>Revenues from external customers</b>				
Gases	\$ 1,411.8	\$ 1,284.9	\$ 2,854.5	\$ 2,488.4
Chemicals	498.9	482.7	959.6	892.8
Equipment	92.6	88.9	180.2	160.2
<b>Segment and Consolidated Totals</b>	<b>\$ 2,003.3</b>	<b>\$ 1,856.5</b>	<b>\$ 3,994.3</b>	<b>\$ 3,541.4</b>
<b>Operating income</b>				
Gases	\$ 206.8	\$ 189.4	\$ 426.6	\$ 371.7
Chemicals	45.0	34.7	65.0	59.2
Equipment	7.9	(.2)	13.9	(.5)
<b>Segment Totals</b>	<b>259.7</b>	<b>223.9</b>	<b>505.5</b>	<b>430.4</b>
Corporate research and development and other income (expense)	(7.5)	(13.8)	(15.0)	(21.5)
<b>Consolidated Totals</b>	<b>\$ 252.2</b>	<b>\$ 210.1</b>	<b>\$ 490.5</b>	<b>\$ 408.9</b>
<b>Equity affiliates' income</b>				
Gases	\$ 22.5	\$ 19.0	\$ 45.1	\$ 36.7
Chemicals	2.7	2.9	5.6	4.8
Equipment	—	.1	—	.1
<b>Segment and Consolidated Totals</b>	<b>\$ 25.2</b>	<b>\$ 22.0</b>	<b>\$ 50.7</b>	<b>\$ 41.6</b>

(Millions of dollars)

	31 March 2005	30 September 2004
<b>Identifiable assets (a)</b>		
Gases	\$ 7,677.0	\$ 7,339.8
Chemicals	1,389.7	1,402.5
Equipment	220.7	226.4
<b>Segment Totals</b>	<b>9,287.4</b>	<b>8,968.7</b>
Corporate assets	747.1	441.9
<b>Consolidated Totals</b>	<b>\$ 10,034.5</b>	<b>\$ 9,410.6</b>

(a) Identifiable assets are equal to total assets less investments in equity affiliates.



**AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries****SUMMARY BY GEOGRAPHIC REGIONS  
(Unaudited)**

(Millions of dollars)

	Three Months Ended		Six Months Ended	
	2005	31 March 2004	2005	31 March 2004
Revenues from external customers				
United States	\$ 1,150.0	\$ 1,043.1	\$ 2,288.9	\$ 1,986.3
Canada	17.3	21.5	35.8	41.1
Total North America	1,167.3	1,064.6	2,324.7	2,027.4
United Kingdom	140.0	178.2	294.2	325.6
Spain	114.5	108.1	230.1	213.1
Other Europe	309.0	282.6	604.8	536.9
Total Europe	563.5	568.9	1,129.1	1,075.6
Asia	232.7	181.3	462.3	353.1
Latin America	39.8	41.7	78.2	85.3
Total	\$ 2,003.3	\$ 1,856.5	\$ 3,994.3	\$ 3,541.4

Note: Geographic information is based on country of origin. The Other Europe segment operates principally in Belgium, France, Germany, and the Netherlands. The Asia segment operates principally in China, Japan, Korea, and Taiwan.

**AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries****NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

(Millions of dollars, except for share data)

**MAJOR ACCOUNTING POLICIES**

Refer to the company's 2004 annual report on Form 10-K for a description of major accounting policies. There have been no material changes to these accounting policies during 2005.

**Share-Based Compensation**

At 31 March 2005, the company had various stock-based compensation plans as described in Note 15 to the consolidated financial statements in the company's 2004 annual report on Form 10-K. The company accounts for its stock option plans under the recognition and measurement principles of Accounting Principles Board (APB) Opinion No. 25, "Accounting for Stock Issued to Employees," and related Interpretations. No compensation expense has been recognized in net income for stock options, as options granted had an exercise price equal to the market value of the underlying common stock on the date of grant. In December 2004, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 123 (revised 2004), "Share-Based Payment," (SFAS No. 123R) as discussed under New Accounting Standards below.

The following table illustrates the effect on net income and earnings per share if the company had applied the fair value recognition provisions of SFAS No. 123, "Accounting for Stock-Based Compensation," to its stock option plans.

	Three Months Ended 31 March		Six Months Ended 31 March	
	2005	2004	2005	2004
Net income, as reported	\$ 175.3	\$ 141.2	\$ 342.1	\$ 273.0
Deduct total stock option employee compensation expense determined under fair value based method, net of related tax effects	(6.8)	(7.6)	(13.7)	(15.1)
Pro forma net income	\$ 168.5	\$ 133.6	\$ 328.4	\$ 257.9
Basic Earnings per Share				
As reported	\$ .77	\$ .63	\$ 1.51	\$ 1.23
Pro forma	\$ .74	\$ .60	\$ 1.44	\$ 1.16
Diluted Earnings per Share				
As reported	\$ .75	\$ .62	\$ 1.47	\$ 1.20
Pro forma	\$ .72	\$ .58	\$ 1.41	\$ 1.13

**NEW ACCOUNTING STANDARDS**

In November 2004, the Financial Accounting Standards Board (FASB) issued SFAS No. 151, "Inventory Costs, an amendment of ARB No. 43, Chapter 4," to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs and spoilage. SFAS No. 151 requires that these costs be recognized as current-period charges. In addition, this Statement requires that allocation of fixed production overheads be based on the normal capacity of the production facilities. SFAS No. 151 is effective for inventory costs incurred during fiscal years beginning after 15 June 2005. The company will adopt this Statement as of 1 October 2005. Adoption of SFAS No. 151 will not have a material effect on the company's consolidated financial statements because its inventory accounting policies are consistent with the requirements of this Statement.

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In December 2004, the FASB issued SFAS No. 153, "Exchanges of Nonmonetary Assets, an amendment of APB Opinion No. 29." The amendments made by SFAS No. 153 are based on the principle that exchanges of nonmonetary assets should be measured based on the fair value of the assets exchanged. SFAS No. 153 eliminates the narrow exception from fair value measurement for nonmonetary exchanges of similar productive assets and replaces it with a broader exception for exchanges of nonmonetary assets that do not have commercial substance. A nonmonetary exchange has commercial substance if the entity's future cash flows are expected to change significantly as a result of the exchange. The company adopted SFAS No. 153 as of 1 January 2005 and will apply the provisions of this Statement prospectively to nonmonetary asset exchange transactions. This Statement is not expected to have a material impact on the company's consolidated financial statements.

The company currently applies APB Opinion No. 25, "Accounting for Stock Issued to Employees," in accounting for its stock option plans. Accordingly, no compensation expense has been recognized for employee stock options. In December 2004, the FASB issued SFAS No. 123 (revised 2004), "Share-Based Payment," (SFAS No. 123R) which requires companies to expense the grant-date fair value of employee stock options. SFAS No. 123R was effective for interim or annual periods beginning after 15 June 2005, with earlier adoption encouraged. However, in April 2005, the Securities and Exchange Commission announced a compliance date effective for fiscal years beginning after 15 June 2005. The company is planning to adopt this Statement on 1 October 2005 and restate prior periods. The impact of expensing stock options in 2004 is a reduction of diluted earnings per share of \$.13 per the pro forma disclosures required by SFAS No. 123. The estimated impact in 2005 is expected to reduce diluted earnings per share by approximately \$.12. The impact of SFAS No. 123R in 2006 and beyond is dependent upon the design of future share-based compensation awards granted by the company and the grant-date fair value calculated for these awards.

In December 2004, the FASB issued a FASB Staff Position (FSP) No. FAS 109-1, "Application of FASB Statement No. 109, Accounting for Income Taxes, to the Tax Deduction on Qualified Production Activities Provided by the American Jobs Creation Act of 2004 (the Act)." FSP FAS 109-1 clarifies that the tax deduction for manufacturers provided for in the Act should be accounted for as a special deduction rather than as a tax rate reduction. The manufacturers' deduction is not available to the company until fiscal year 2006. The company is evaluating the effect the manufacturers' deduction will have in future fiscal years.

In December 2004, the FASB also issued FSP No. FAS 109-2, "Accounting and Disclosure Guidance for the Foreign Earnings Repatriation Provision within the American Jobs Creation Act of 2004." The Act creates a temporary incentive for U. S. corporations to repatriate accumulated income earned abroad by providing an 85% dividends received deduction for certain dividends from controlled foreign corporations. The company may elect to apply this provision to qualifying earnings repatriations in either fiscal year 2005 or 2006. The deduction is subject to several limitations, and uncertainty remains as to how to interpret numerous provisions in the Act. FSP FAS 109-2 provides additional time for the company to evaluate the impact of the Act in applying SFAS No. 109. Until the U. S. Congress and the Treasury Department issue final guidance to clarify key elements in the Act, the company is unable to determine if it will utilize the temporary incentive and therefore is unable to determine the amount of possible earnings repatriation or the tax impact of the dividends deduction.

In March 2005, the FASB issued Financial Interpretation No. 47, "Accounting for Conditional Asset Retirement Obligations" (FIN 47). FIN 47 clarifies the term, conditional asset retirement obligation, as used in SFAS No. 143 "Accounting for Asset Retirement Obligations," which refers to a legal obligation to perform an asset retirement activity in which the timing and (or) method of settlement are conditional on a future event. Uncertainty about the timing and (or) method of settlement of a conditional asset retirement obligation should be factored into the measurement of the liability when sufficient information exists. FIN 47 is effective no later than the end of fiscal years ending after 15 December 2005. The company is evaluating the effect FIN 47 will have on its consolidated financial statements.

**GOODWILL**

Changes to the carrying amount of consolidated goodwill by segment for the six months ended 31 March 2005, are as follows:

	Gases	Chemicals	Equipment	Total
Balance as of 30 September 2004	\$ 721.2	\$ 99.3	\$ 10.0	\$ 830.5
Acquisitions and adjustments	48.6	—	—	48.6
Currency translation	34.7	2.8	.3	37.8
Balance as of 31 March 2005	\$ 804.5	\$ 102.1	\$ 10.3	\$ 916.9

The increase in goodwill is primarily related to acquisitions within the U.S. homecare businesses.

**EARNINGS PER SHARE**

The following table sets forth the computation of basic and diluted earnings per share (EPS):

	Three Months Ended 31 March		Six Months Ended 31 March	
	2005	2004	2005	2004
<b>NUMERATOR</b>				
Net income used in basic and diluted EPS	\$ 175.3	\$ 141.2	\$ 342.1	\$ 273.0
<b>DENOMINATOR (in millions)</b>				
Weighted average number of common shares used in basic EPS	228.1	223.7	227.3	222.8
<b>Effect of dilutive securities</b>				
Employee stock options	5.5	4.6	5.2	4.5
Other award plans	.7	.5	.7	.6
	6.2	5.1	5.9	5.1
Weighted average number of common shares and dilutive potential common shares used in diluted EPS	234.3	228.8	233.2	227.9
<b>BASIC EPS</b>	\$ .77	\$ .63	\$ 1.51	\$ 1.23
<b>DILUTED EPS</b>	\$ .75	\$ .62	\$ 1.47	\$ 1.20

**PENSION AND OTHER POSTRETIREMENT BENEFITS**

The components of net pension and other postretirement benefit cost are as follows:

	Three Months Ended 31 March			
	2005	2004	2005	2004
	Pension Benefits		Other Benefits	
Service cost	\$ 17.9	\$ 19.1	\$ 1.0	\$ 1.2
Interest cost	35.6	31.6	1.2	1.4
Expected return on plan assets	(37.2)	(32.5)	—	—
Prior service cost amortization	1.0	.8	(.8)	(.2)
Actuarial loss amortization	10.8	8.7	.6	.1
Transition amount amortization	.1	(.1)	—	—
Settlement and curtailment charges	—	4.6	(.6)	—
Special termination benefits	2.9	.5	—	—
Other	.5	.8	—	—
Net periodic benefit cost	\$ 31.6	\$ 33.5	\$ 1.4	\$ 2.5

	Six Months Ended 31 March			
	2005	2004	2005	2004
	Pension Benefits		Other Benefits	
Service cost	\$ 37.6	\$ 36.1	\$ 2.2	\$ 2.4
Interest cost	70.2	63.9	2.6	2.8
Expected return on plan assets	(73.1)	(61.2)	—	—
Prior service cost amortization	1.8	1.7	(1.1)	(.5)
Actuarial loss amortization	19.1	17.3	.7	.2
Transition amount amortization	.1	(.2)	—	—
Settlement and curtailment charges	.2	6.9	(.6)	—
Special termination benefits	3.9	.5	—	—
Other	.7	1.6	—	—
Net periodic benefit cost	\$ 60.5	\$ 66.6	\$ 3.8	\$ 4.9

During the six months ended 31 March 2005, contributions of \$108 were made. The company expects to contribute approximately \$27 to the pension plans during the remainder of 2005. For the six months ended 31 March 2004, contributions of \$191 were made. During 2004, total contributions were \$277.

## COMMITMENTS AND CONTINGENCIES

In the normal course of business the company has commitments, lawsuits, contingent liabilities and claims. However, the company does not expect that any sum it may have to pay in connection with these matters, or the matters described below, will have a materially adverse effect on its consolidated financial condition, liquidity or results of operations.

In 1999, the company made an investment in INOX, an Indian industrial gases company. As part of that transaction, put options were issued which gave the other (joint 50%) shareholders the right to require the company to purchase their shares (approximately 5.1 million) of INOX (renamed INOXAP) at a predefined price. The option period began January 2004 and extended through January 2006. On 22 January 2005, the company and the other shareholders extended and revised the terms of the option agreement. The other shareholders may give notice to exercise the revised put option between October and December 2010. The option, if exercised, would be effective on 31 July 2011. The option may also be exercised within six months of the death or permanent incapacity of the current Managing Director of INOXAP. The revised option price is based on a multiple of earnings formula, but not less than 630 Rupees per share. The U.S. dollar price of purchasing all 5.1 million shares at the minimum per share amount based on the current exchange rate would be approximately \$74.

In July 2003, Honeywell International, Inc. and GEM Microelectronics Materials, LLC (“Honeywell”) filed suit against the company alleging breach of contract resulting from the termination of a strategic alliance agreement dated 1 October 1998. On 6 August 2004, the Delaware Chancery Court decided that the company must pay damages in the amount of \$8.1. The amount was recorded against previously established accruals. Honeywell filed an appeal of the court’s decision and the company filed a cross appeal. On 29 March 2005, the Delaware Supreme Court affirmed the Delaware Chancery Court opinion in part and reversed in part, ruling that Honeywell was entitled to a recalculation of the award based upon five years of damages versus two years used for the 6 August 2004 judgment. On 13 April 2005, the company filed a motion with the Delaware Supreme Court to reconsider the ruling.

## Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

### (Millions of dollars, except for share data)

The disclosures in this quarterly report are complementary to those made in the company's 2004 annual report on Form 10-K. An analysis of results for the second quarter and first six months of 2005, including an update to the company's 2005 Outlook, is provided in the Management's Discussion and Analysis to follow.

All comparisons are to the corresponding period in the prior year unless otherwise stated. All amounts presented are in accordance with accounting principles generally accepted in the United States of America.

### SECOND QUARTER 2005 VS. SECOND QUARTER 2004

#### SECOND QUARTER 2005 IN SUMMARY

- Sales of \$2,003 were up 8% from the prior year, driven mainly by higher volumes across the Gases segment, higher pricing in Chemicals, and favorable currency effects.
- Operating income of \$252 increased 20%, principally driven by volume gains and lower costs from productivity.
- In the Gases segment, volumes were strong in North America and Asia base gases, refinery hydrogen, electronics and healthcare. Favorable currency and homecare acquisitions also contributed to sales growth.
- In the Chemicals segment, operating income increased significantly on lower costs and higher selling prices.
- In the Equipment segment, results improved, mainly on higher liquefied natural gas (LNG) heat exchanger activity.
- Net income of \$175 increased 24% and diluted earnings per share of \$.75 increased 21%. A summary table of changes in earnings per share is presented below.
- The company generated strong cash flows, announced a \$500 share repurchase program, and increased its dividend.
- For a discussion of the challenges, risks, and opportunities on which management is focused, refer to the update to the company's 2005 Outlook provided on pages 27-29.

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Changes in Earnings per Share

	Three Months Ended 31 March		Increase (Decrease)
	2005	2004	
<b>Diluted Earnings per Share</b>	\$ .75	\$ .62	\$ .13
<b>Operating Income (after-tax)</b>			
Acquisitions			.01
Divestitures			.01
Currency			.02
Underlying business			
Volume			.09
Price/raw materials			(.02)
Costs			.02
<b>Operating Income</b>			<b>.13</b>
<b>Other (after-tax)</b>			
Equity affiliates' income			.01
Interest expense			.01
Average shares outstanding			(.02)
<b>Other</b>			<b>—</b>
<b>Total Change in Diluted Earnings per Share</b>			<b>\$ .13</b>

RESULTS OF OPERATIONS

Consolidated Results

	Three Months Ended 31 March		% Change
	2005	2004	
<b>Sales</b>	<b>\$ 2,003.3</b>	<b>\$ 1,856.5</b>	<b>8%</b>
Cost of sales	1,468.9	1,369.6	7%
Selling and administrative	257.2	250.4	3%
Research and development	33.1	32.0	3%
Other (income) expense, net	(8.1)	(5.6)	45%
<b>Operating Income</b>	<b>252.2</b>	<b>210.1</b>	<b>20%</b>
Equity affiliates' income	25.2	22.0	15%
Interest expense	29.8	32.3	(8%)
Effective tax rate	27.9%	28.0%	—
<b>Net Income</b>	<b>175.3</b>	<b>141.2</b>	<b>24%</b>
<b>Basic Earnings per Share</b>	<b>\$ .77</b>	<b>\$ .63</b>	<b>22%</b>
<b>Diluted Earnings per Share</b>	<b>\$ .75</b>	<b>\$ .62</b>	<b>21%</b>



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### Discussion of Consolidated Results

#### Sales

	% Change from Prior Year
Acquisitions	1%
Divestitures	(2%)
Currency	2%
Natural gas/raw material cost pass through	2%
Underlying business	
Volume	4%
Price/mix	1%
<b>Total Consolidated Change</b>	<b>8%</b>

Sales of \$2,003.3 increased 8%, or \$146.8. Underlying base business growth increased sales 5%. Sales increased 4% from improved volumes, primarily in the Gases segment, as discussed in the Segment Analysis which follows. Overall the impact of pricing was favorable, increasing sales by 1%. Price increases within the Chemicals segment and the Gases European liquid bulk business were partially offset by lower average selling prices for electronic specialty materials. The acquisitions of U.S. homecare companies accounted for 1% of the increase. Divestitures of the company's European methylamines and derivatives business (EM&D) and its Mexican polymers business accounted for a 2% decrease. Sales increased 2% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro and also the Pound Sterling. Higher natural gas/raw material cost pass through to customers accounted for an additional 2% of the sales increase.

#### Operating Income

Operating income of \$252.2 increased 20%, or \$42.1. Favorable operating income variances resulted from higher volumes for \$28, lower costs for \$9, and favorable currency effects for \$8. The favorable impact from higher volumes, as discussed in the Segment Analysis which follows, was driven by strong volumes broadly across the Gases segment and also higher LNG activity in the Equipment segment. Productivity gains including the impact of the implementation costs more than offset inflation. In the Chemicals segment, higher costs for major raw materials were recovered via contractual pass through to customers or price increases.

#### Equity Affiliates' Income

Income from equity affiliates of \$25.2 increased \$3.2, or 15%. Gases equity affiliates' income increased \$3.5, driven by the higher income reported by the Latin American, European, and worldwide Electronics affiliates.

#### Selling and Administrative Expense (S&A)

	% Change from Prior Year
Acquisitions	3%
Divestitures	—
Currency	2%
Other costs	(2)%
<b>Total S&amp;A Change</b>	<b>3%</b>

S&A expense of \$257.2 increased 3%, or \$6.8. S&A as a percent of sales declined to 12.8% from 13.5% in 2004. The acquisitions of U.S. homecare companies increased S&A by 3%. Currency effects, driven by the weakening of the U.S. dollar against the Euro and the Pound Sterling, increased S&A by 2%. Underlying costs decreased 2%, as productivity gains more than offset inflation.

[Table of Contents](#)**Research and Development (R&D)**

R&D increased 3%, or \$1.1. R&D spending as a percent of sales was 1.7% in both 2005 and 2004.

**Other (Income) Expense, Net**

Other income of \$8.1 increased \$2.5. Items recorded to other income arise from transactions and events not directly related to the principal income earning activities of the company. No individual items were material in the comparison to the prior year.

**Interest Expense**

	Three Months Ended 31 March	
	2005	2004
Interest incurred	\$ 32.6	\$ 33.4
Less: interest capitalized	2.8	1.1
Interest expense	\$ 29.8	\$ 32.3

Interest incurred decreased \$.8. The decrease resulted from a lower average debt balance excluding currency effects and lower average interest rates, partially offset by the impact of a weaker U.S. dollar on the translation of foreign currency interest. Capitalized interest was higher by \$1.7 due to higher levels of construction in progress for plant and equipment built by the company, particularly from projects within Asia Gases, Electronics and Energy Process Industries (EPI).

**Effective Tax Rate**

The effective tax rate equals the income tax provision divided by income before taxes less minority interest. The effective tax rate was 27.9% in 2005 and 28.0% in 2004.

**Net Income**

Net income was \$175.3 compared to \$141.2 in 2004. Diluted earnings per share of \$.75 compared to \$.62 in 2004. A summary table of changes in earnings per share is presented on page 15 .

**Segment Analysis****Gases**

	Three Months Ended 31 March		
	2005	2004	% Change
Sales	\$ 1,411.8	\$ 1,284.9	10%
Operating income	206.8	189.4	9%
Equity affiliates' income	22.5	19.0	18%

**Gases Sales**

	% Change from Prior Year
Acquisitions	1%
Divestitures	—
Currency	2%
Natural gas/raw material cost pass through	1%
Underlying business	
Volume	6%
Price/mix	—
<b>Total Gases Change</b>	<b>10%</b>

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Sales of \$1,411.8 increased 10%, or \$126.9. The acquisitions of U.S. homecare companies accounted for 1% of the increase. Sales increased 2% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro and also the Pound Sterling. Higher natural gas cost pass through to customers accounted for an additional 1% of the sales increase.

Underlying base business sales growth of 6% was driven by higher volumes, particularly in North America and Asia base gases, refinery hydrogen, electronics and healthcare.

- Electronic specialty materials volumes increased, due to growth in both the semiconductor and flat-panel display markets. However, volume gains were more than offset by pricing declines.
- On-site and pipeline volumes in EPI were up 4%, led by stronger HYCO (hydrogen and carbon monoxide) volumes, but offset by the unfavorable impact of lower oxygen and nitrogen volumes. Refinery hydrogen volumes were higher in spite of maintenance outages. Volumes in 2005 benefited from new plant capacity.
- Liquid bulk volumes in North America improved 6% overall, with higher volumes across all product lines. Liquid oxygen (LOX) and liquid nitrogen (LIN) volumes improved 4%, in line with the improving economy. Liquid argon (LAR) volumes increased due to strong demand from customers in the steel industry. Helium volumes improved from favorable customer order patterns. Liquid hydrogen volumes improved from demand by the government sector.
- Liquid bulk volumes in Europe declined 2%. While underlying base business grew from the signing of new customer accounts, this growth did not offset the impact of lower volumes from lost business, including reduced demand at existing accounts and the conversion of certain liquid customers to on-site supply.
- Packaged gas volumes in Europe declined 2%, reflecting a weak manufacturing environment and fewer workdays this year. On a workday adjusted basis, the packaged gas volumes in Europe were flat.
- LOX/LIN volumes in Asia were up a strong 17%, driven mainly by solid demand growth across the region, particularly in Korea and Taiwan.

Overall, the impact of pricing on sales was slightly unfavorable, with higher liquid bulk pricing in Europe offset by lower average selling prices of electronic specialty materials.

- The average selling price for electronic specialty materials declined as pricing pressure continued.
- Average pricing for LOX/LIN in North America decreased 2%, including the impact of a prior period adjustment.
- LOX/LIN pricing in Europe increased 4%, due to pricing programs and favorable customer mix.

### **Gases Operating Income**

Operating income of \$206.8 increased 9%, or \$17.4. Favorable operating income variances resulted from higher volumes for \$23 and favorable currency effects for \$5. Operating income declined \$6 from pricing declines and \$5 from higher costs, including those associated with EPI maintenance outages and implementation costs for productivity initiatives.

### **Gases Equity Affiliates' Income**

Gases equity affiliates' income of \$22.5 increased \$3.5, with higher income reported by the Latin American, European, and worldwide Electronics affiliates.

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### Chemicals

	Three Months Ended 31 March		% Change
	2005	2004	
Sales	\$ 498.9	\$ 482.7	3%
Operating income	45.0	34.7	30%
Equity affiliates' income	2.7	2.9	(7%)

### Chemicals Sales

	% Change from Prior Year
Acquisitions	—
Divestitures	(6%)
Currency	1%
Natural gas/raw material cost pass through	4%
Underlying business	
Volume	—
Price/mix	4%
<b>Total Chemicals Change</b>	<b>3%</b>

Sales of \$498.9 increased 3%, or \$16.2. Sales decreased 6% from the impact of the divestitures, which included the company's European methylamines and derivatives business (EM&D) and its Mexican polymers business. Sales increased 1% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro. Higher raw material costs contractually passed through to customers accounted for an additional 4% of the sales increase. Sales increased 4% from pricing, driven by price increases in the emulsions and higher amines product lines.

Overall, the net impact of volumes on sales was essentially neutral.

- In Performance Materials, base business volumes decreased 2%, as improvements in epoxy additives were more than offset by lower emulsion volumes across all regions. Epoxy additive growth was driven by higher Asia and North American volumes, with strong demand in the industrial coatings, adhesive applications and civil engineering market sectors. Emulsions volumes declined as the company is aggressively raising prices on all products in this business.
- In Chemical Intermediates, base business volumes increased 2%, driven by higher polyurethane intermediate (PUI) volumes, partially offset by lower volumes in higher amines. PUI volumes improved compared to 2004 which reflected the unfavorable impact of reduced demand from a significant customer. Volumes in higher amines were lower due the company's efforts to significantly increase prices and a poor growing season in South America.

### Chemicals Operating Income

Operating income of \$45.0 increased 30%, or \$10.3. Operating income increased \$8 from improved cost performance. Higher raw material costs were recovered through a combination of higher prices and contract terms. The company benefited from the favorable impact of a long-term supply agreement to purchase methanol for domestic methylamines production.

### Chemicals Equity Affiliates' Income

Chemicals equity affiliates' income of \$2.7 compared to \$2.9 in 2004. Chemicals equity affiliates' income consists primarily of a global polymer joint venture.

[Table of Contents](#)**Equipment**

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	Three Months Ended 31 March	
	2005	2004
Sales	\$ 92.6	\$ 88.9
Operating income (loss)	7.9	(.2)

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**Equipment Sales and Operating Income**

Sales and operating income increased primarily from higher liquefied natural gas (LNG) heat exchanger sales activity. Currency effects increased sales by 2%, due primarily to the weakening of the U.S. dollar against the Pound Sterling.

**All Other**

All other comprises corporate expenses and income not allocated to the segments, primarily corporate research and development expense. The operating loss of \$7.5 was lower by \$6.3. No items individually were material in the comparison to the prior year.

## SIX MONTHS 2005 VS. SIX MONTHS 2004

### SIX MONTHS 2005 IN SUMMARY

- Sales of \$3,994 were up 13% from the prior year, driven by higher volumes across all business segments. Gases segment volumes were strong, driven by higher volumes in Electronics, EPI, and Asia and North America base gases. In Chemicals, volumes improved in both the Performance Materials and Chemical Intermediates businesses. Equipment segment sales increased, mainly on higher liquefied natural gas (LNG) heat exchanger sales activity.
- Operating income of \$491 increased 20%. Strong volume increases, favorable currency effects and productivity gains were partially offset by higher costs for raw materials and implementation costs for productivity initiatives.
- Challenges in the Chemicals segment continued during the first quarter of 2005. While volume growth was solid, rising feedstock costs outpaced price increases. In the second quarter, operating income increased significantly on lower costs and higher selling prices.
- As part of the global cost reduction plan announced in the third quarter of 2003, the company decided to pursue the sale of its European methylamines and derivatives business (EM&D). After a long regulatory process, the sale of the EM&D business was completed in December 2004.
- Net income of \$342 increased 25% and diluted earnings per share of \$1.47 increased 23%. A summary table of changes in earnings per share is presented below.
- The company generated strong cash flows, announced a \$500 share repurchase program, and increased its dividend.
- For a discussion of the challenges, risks, and opportunities on which management is focused, refer to the update to the company's 2005 Outlook provided on pages 27-29.

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**Changes in Earnings per Share**

	Six Months Ended 31 March		Increase (Decrease)
	2005	2004	
<b>Diluted Earnings per Share</b>	\$ 1.47	\$ 1.20	\$ .27
<b>Operating Income (after-tax)</b>			
Acquisitions			.02
Divestitures			.01
Currency			.05
Underlying business			
Volume			.27
Price/raw materials			(.06)
Costs			(.03)
<b>Operating Income</b>			<b>.26</b>
<b>Other (after-tax)</b>			
Equity affiliates' income			.03
Interest expense			.02
Average shares outstanding			(.04)
<b>Other</b>			<b>.01</b>
<b>Total Change in Diluted Earnings per Share</b>			<b>\$ .27</b>

**RESULTS OF OPERATIONS**

**Consolidated Results**

	Six Months Ended 31 March		% Change
	2005	2004	
<b>Sales</b>	<b>\$ 3,994.3</b>	<b>\$ 3,541.4</b>	<b>13%</b>
Cost of sales	2,944.4	2,599.8	13%
Selling and administrative	510.0	481.8	6%
Research and development	66.2	62.0	7%
Other (income) expense, net	(16.8)	(11.1)	51%
<b>Operating Income</b>	<b>490.5</b>	<b>408.9</b>	<b>20%</b>
Equity affiliates' income	50.7	41.6	22%
Interest expense	57.6	63.2	(9%)
Effective tax rate	27.9%	28.0%	—
<b>Net Income</b>	<b>342.1</b>	<b>273.0</b>	<b>25%</b>
<b>Basic Earnings per Share</b>	<b>\$ 1.51</b>	<b>\$ 1.23</b>	<b>23%</b>
<b>Diluted Earnings per Share</b>	<b>\$ 1.47</b>	<b>\$ 1.20</b>	<b>23%</b>

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### Discussion of Consolidated Results

#### Sales

	% Change from Prior Year
Acquisitions	1%
Divestitures	(1%)
Currency	2%
Natural gas/raw material cost pass through	3%
Underlying business	
Volume	7%
Price/mix	1%
<b>Total Consolidated Change</b>	<b>13%</b>

Sales of \$3,994.3 increased 13%, or \$452.9. Underlying base business growth accounted for 8% of the increase. Sales increased 7% from improved volumes across all business segments, as discussed in the Segment Analysis which follows. The acquisitions of U.S. homecare companies accounted for 1% of the increase. Divestitures of the company's EM&D business and its Mexican polymers business accounted for a 1% decrease. Sales increased 2% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro and also the Pound Sterling. Higher natural gas/raw material cost pass through to customers accounted for an additional 3% of the sales increase.

#### Operating Income

Operating income of \$490.5 increased 20%, or \$81.6. Favorable operating income variances resulted from higher volumes for \$85 and favorable currency effects for \$18. Operating income decreased \$9 from higher costs, including costs to implement productivity initiatives. In the Chemicals segment, operating income decreased by \$14 from higher costs for major raw materials not contractually passed through to customers or recovered via price increases.

#### Equity Affiliates' Income

Income from equity affiliates of \$50.7 increased \$9.1, or 22%. Gases equity affiliates' income increased \$8.4, with higher income reported by the Latin American, European, and worldwide Electronics affiliates.

#### Selling and Administrative Expense (S&A)

	% Change from Prior Year
Acquisitions	3%
Divestitures	—
Currency	2%
Other costs	1%
<b>Total S&amp;A Change</b>	<b>6%</b>

S&A expense of \$510.0 increased 6%, or \$28.2. S&A as a percent of sales declined to 12.8% from 13.6% in 2004. The acquisitions of U.S. homecare companies increased S&A by 3%. Currency effects, driven by the weakening of the U.S. dollar against the Euro and the Pound Sterling, increased S&A by 2%. Underlying costs increased 1%, primarily due to implementation costs associated with productivity initiatives. Productivity gains offset inflation.

#### Research and Development (R&D)

R&D increased 7%, or \$4.2. R&D spending declined slightly as a percent of sales to 1.7% from 1.8% in 2004.



[Table of Contents](#)**Other (Income) Expense, Net**

Other income of \$16.8 increased \$5.7. Items recorded to other income arise from transactions and events not directly related to the principal income earning activities of the company. No individual items were material in the comparison to the prior year.

**Interest Expense**

	Six Months Ended 31 March	
	2005	2004
Interest incurred	\$ 62.4	\$ 65.9
Less: interest capitalized	4.8	2.7
Interest expense	\$ 57.6	\$ 63.2

Interest incurred decreased \$3.5. The decrease resulted from a lower average debt balance excluding currency effects and lower average interest rates, partially offset by the impact of a weaker U.S. dollar on the translation of foreign currency interest. Capitalized interest was higher by \$2.1 due to higher levels of construction in progress for plant and equipment built by the company, particularly from projects within Asia Gases, Electronics and EPI.

**Effective Tax Rate**

The effective tax rate equals the income tax provision divided by income before taxes less minority interest. The effective tax rate was 27.9% in 2005 and 28.0% in 2004.

**Net Income**

Net income was \$342.1 compared to \$273.0 in 2004. Diluted earnings per share of \$1.47 compared to \$1.20 in 2004. A summary table of changes in earnings per share is presented on page 22.

**Segment Analysis****Gases**

	Six Months Ended 31 March		% Change
	2005	2004	
Sales	\$ 2,854.5	\$ 2,488.4	15%
Operating income	426.6	371.7	15%
Equity affiliates' income	45.1	36.7	23%

**Gases Sales**

	% Change from Prior Year
Acquisitions	2%
Divestitures	(1%)
Currency	3%
Natural gas/raw material cost pass through	2%
Underlying business	
Volume	9%
Price/mix	—
<b>Total Gases Change</b>	<b>15%</b>

Sales of \$2,854.5 increased 15%, or \$366.1. The acquisitions of U.S. homecare companies accounted for 2% of the increase. Sales increased 3% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro and also the Pound Sterling. Higher natural gas cost pass through to customers accounted for an additional 2% of the sales increase.

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Underlying base business sales growth of 9% was driven by higher volumes in Electronics, EPI, and Asia and North America base gases.

- Electronic specialty materials volumes increased, due to growth in both the semiconductor and flat-panel display markets.
- On-site and pipeline volumes in EPI were up 10%, led by stronger HYCO (hydrogen and carbon monoxide) volumes. Volumes in 2005 benefited from new plant capacity. Hydrogen growth continues to be led by the ongoing trend for refiners to meet lower sulfur specifications. Oxygen and nitrogen volumes were flat compared to the prior year.
- Liquid bulk volumes in North America improved 5%. Liquid oxygen (LOX) and liquid nitrogen (LIN) volumes improved 3%, in line with the improving economy. Liquid hydrogen volumes improved from demand by the government sector. Helium volumes improved from favorable customer order patterns.
- Liquid bulk volumes in Europe declined 2%. While underlying base business has grown from the signing of new customer accounts, these additions did not fully offset lost business, including reduced demand at existing accounts and the conversion of certain liquid customers to on-site supply.
- Packaged gas volumes in Europe declined 1%, reflecting a weak manufacturing environment and fewer workdays this year. On a workday adjusted basis, the packaged gas volumes in Europe were flat.
- LOX/LIN volumes in Asia were up a strong 19%, driven mainly by solid demand growth across the region, particularly in Korea and Taiwan.

Overall, the impact of pricing on sales was slightly unfavorable, with higher liquid bulk pricing in Europe offset by lower average selling prices of electronic specialty materials.

- The average selling price for electronic specialty materials declined as pricing pressure continued.
- Average pricing for LOX/LIN in North America was flat compared to the prior year.
- LOX/LIN pricing in Europe increased 3%, due to pricing programs and favorable customer mix.

### **Gases Operating Income**

Operating income of \$426.6 increased 15%, or \$54.9. Favorable operating income variances resulted from higher volumes for \$62 and favorable currency effects for \$14. Operating income declined \$13 from higher costs, including costs to implement productivity initiatives and costs associated with EPI maintenance outages in the second quarter. The unfavorable impact of lower pricing decreased operating income by \$9.

### **Gases Equity Affiliates' Income**

Gases equity affiliates' income of \$45.1 increased \$8.4, with higher income reported by the Latin American, European and worldwide Electronics affiliates.

### **Chemicals**

	Six Months Ended 31 March		
	2005	2004	% Change
Sales	\$ 959.6	\$ 892.8	7%
Operating income	65.0	59.2	10%
Equity affiliates' income	5.6	4.8	17%

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### Chemicals Sales

	% Change from Prior Year
Acquisitions	—
Divestitures	(5%)
Currency	1%
Natural gas/raw material cost pass through	5%
Underlying business	
Volume	3%
Price/mix	3%
<b>Total Chemicals Change</b>	<b>7%</b>

Sales of \$959.6 increased 7%, or \$66.8. Sales decreased 5% from the impact of the divestitures, which included the company's EM&D business and its Mexican polymers business. Sales increased 1% from favorable currency effects, driven primarily by the weakening of the U.S. dollar against the Euro. Higher raw material costs contractually passed through to customers accounted for 5% of the sales increase.

Underlying base business increased sales 6%. Sales increased 3% from pricing, driven by price increases in the emulsions and higher amines product lines. Sales increased 3% from higher volumes in the base business, driven by the first quarter performance in both the Performance Materials and Chemical Intermediates businesses.

- In Performance Materials, base business volumes increased 3%, driven by improvements in epoxy additives, partially offset by lower emulsion volumes across all regions. Epoxy additive volumes were strong in Asia and North America, with strong demand in the coatings market. Emulsions volumes declined, as the company is aggressively raising prices across this business.
- In Chemical Intermediates, base business volumes increased 4%, driven by improvements in polyurethane intermediates (PUI), partially offset by lower volumes in higher amines. PUI volumes improved compared to 2004 which reflected the unfavorable impact from customer outages. Volumes in higher amines were lower due to the company's efforts to raise prices, raw material shortages in the first quarter, and the impact of a poor growing season in South America in the second quarter.

### Chemicals Operating Income

Operating income of \$65.0 increased 10%, or \$5.8. Higher volumes accounted for an increase of \$10 in operating income. Favorable variances resulted from currency for \$4 and divestitures for \$4. Operating income declined \$14 from higher costs for major raw materials not contractually passed through to customers or recovered via price in the first quarter. However, in the second quarter, higher raw material costs were recovered through a combination of higher prices and contract terms. Beginning in the first quarter, the company benefited from the favorable impact of a long-term supply agreement to purchase methanol for domestic methylamines production. The company continues to focus on recovering raw material cost increases and plans to continue to aggressively raise prices. Refer to the Chemicals outlook discussion on page 28.

### Chemicals Equity Affiliates' Income

Chemicals equity affiliates' income of \$5.6 increased \$.8. Chemicals equity affiliates' income consists primarily of a global polymer joint venture.

### Equipment

	Six Months Ended 31 March	
	2005	2004
Sales	\$ 180.2	\$ 160.2
Operating income (loss)	13.9	(.5)

### Equipment Sales and Operating Income

Sales and operating income increased primarily from higher liquefied natural gas (LNG) heat exchanger sales activity. Currency effects also improved sales, due primarily to the strengthening of the Pound Sterling.

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The sales backlog at 31 March 2005 was \$489 compared to \$297 at 30 September 2004. The backlog at 31 March 2005 included nine LNG heat exchangers.

### **All Other**

All other comprises corporate expenses and income not allocated to the segments, primarily corporate research and development expense. The operating loss of \$15.0 was lower by \$6.5. No items individually were material in the comparison to the prior year.

### **PENSION BENEFITS**

Refer to the notes to the consolidated financial statements on page 12 for details on pension cost and cash contributions. For additional information on the company's pension benefits and associated accounting policies, refer to the Pension Benefits section of Management's Discussion and Analysis and Note 18 to the consolidated financial statements in the company's 2004 annual report on Form 10-K.

### **2005 OUTLOOK**

The company's priority is to improve return on capital. Action plans are in place to load existing assets, drive productivity, focus capital spending on growth areas, and continuously improve the company's portfolio of businesses. The discussion below highlights some of these action plans, and outlines the areas of challenge, risk, and opportunity on which management is focused.

#### **Economic Environment**

Domestic manufacturing activity in the first six months of 2005 improved, up 4.8% from the prior year. The company originally anticipated domestic manufacturing growth between 3% and 6% for the year, and the current forecast is between 3-4%. The original estimate for semiconductor growth was in the range of 0-5%, with the current estimate at 0% to (5%).

#### **Gases**

The Gases segment demonstrated both sales and operating income growth in the first six months and the company expects a strong year-on-year improvement for the full year. The company expects continued volume gains during the second half of the year, particularly in the refinery hydrogen and healthcare businesses, despite general concerns about slowing growth in manufacturing.

Hydrogen growth continues to be led by the ongoing trend for refiners to meet lower sulfur specifications and bidding activity remains high. The growth prospects for the company's EPI business remain strong. The company has five facilities currently under construction and scheduled to come on-stream next fiscal year.

In Electronics, the company saw year-on-year volume gains in the first six months, although sequentially from the first to second quarter volumes declined. While in the past, specialty materials volume gains more than offset pricing declines, in the second quarter price declines outpaced volume growth. The company anticipates pricing pressure will continue on some specialty gases, but overall pricing in these products is in line with expectations. The company anticipates specialty material volume growth to exceed price declines as liquid crystal display (LCD) production facilities begin to ramp-up later this year.

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In North America liquid bulk, the company expects LOX/LIN volumes to remain strong through the end of the year, in line with economic recovery. LOX/LIN volumes are expected to benefit from recent new business signings and seasonal demand during the second half of the year. A national price increase was implemented over most North American liquid bulk products effective 1 November 2004. Higher energy costs have negatively impacted this business in the first half of the year, and in addition to the price increases, the company is aggressively implementing surcharges in this business. The company announced surcharge actions effective 15 March 2005 which will contribute favorably to profitability in the second half of the year.

In Europe Gases, volumes are expected to benefit from seasonal improvement in the summer months, although volumes are expected to remain behind prior year levels through the end of the year.

The company expects to see strong year-on-year growth in Asia for the remainder of 2005 and beyond. Although the company is currently capacity constrained in some areas of the Asian liquid bulk business, the company has three new liquid sources coming on-stream in China in 2005.

Growth is anticipated to continue in the Healthcare business, and spending on homecare acquisitions is estimated in the range of \$75 to \$100 for 2005. During the first six months of 2005, the company acquired three U.S. homecare businesses for \$48.3, and on 1 April 2005, the company closed on another U.S. homecare business acquisition.

### **Chemicals**

In the first quarter of 2005, the Chemicals segment experienced rising raw material costs which outpaced price increases. However, during the second quarter of 2005, the company's Chemicals business improved significantly. Higher raw material costs were recovered through a combination of higher prices and contract terms.

The company announced and will continue to implement price increases across most of its products. In the second quarter, sales improved from price increases in the company's emulsions and amines businesses, those businesses impacted most by increased raw material costs. In the first quarter, the company began seeing the favorable impact of a long-term supply arrangement to purchase methanol for domestic methylamines production and reduce raw material cost volatility.

In Chemical Intermediates, volumes are expected to decline from a seasonal slowdown in higher amines due to agricultural demand and planned customer outages in polyurethane intermediates. In Performance Materials, volumes are expected to improve from continued manufacturing growth.

A long-term supplier of sulfuric acid, used in the production of dinitrotoluene (DNT), emerged from Chapter 11 bankruptcy protection in June 2003. To facilitate the supplier's ability to emerge from bankruptcy and to continue supplying product to the company, the company agreed to participate in the supplier's financing and has continued to provide additional financing. Total loans to the supplier at 31 March 2005 were \$59.6. If the supplier does not continue to operate, the sales and profitability of the Chemicals segment could be materially impacted because of the company's inability to supply all of its customers' base requirements. The company does not expect a material loss related to this supplier.

### **Equipment**

During the first six months of 2005, the company received orders for four AP-X™ LNG heat exchangers, a new, proprietary technology that can significantly increase heat exchanger capacity. Sales backlog has increased and nine LNG heat exchangers remain in the sales backlog. The company anticipates profits for 2005 in the range of \$35-\$40.

### **Selling and Administrative Expense**

The company's SAP project is focused on lowering transaction costs, which are mainly contained in S&A. The company now has the majority of its business on its new SAP system, has identified ways to improve productivity, and is working to drive productivity in S&A spending.

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### Capital Expenditures

Capital expenditures for new plant and equipment are expected to be in the range of \$950 to \$1,000 in 2005, slightly higher than the previous forecast for 2005. The increase is primarily due to increased hydrogen and Electronics opportunities. Growth is anticipated to continue in the Healthcare business, and spending on homecare acquisitions is estimated in the range of \$75 to \$100 for 2005. In addition, the company intends to continue to evaluate acquisition opportunities and investments in affiliated entities.

### Productivity Initiatives

The company anticipates after-tax implementation costs of \$.10 to \$.15 per share to achieve productivity savings. Productivity initiatives are expected to drive margin improvement.

## LIQUIDITY AND CAPITAL RESOURCES

### Cash Flow

The narrative below refers to the Consolidated Statements of Cash Flows included on page 6. The company's cash balance at 31 March 2005 exceeded \$400 after making the majority of its planned pension contributions for 2005. As discussed below under Financing Activities, the company expects to begin repurchasing stock under a \$500 share repurchase program.

### Operating Activities

Net cash provided by operating activities increased \$298.1, or 80%. Net income increased by \$69.1. The decrease in cash used for working capital of \$243.2 was due to the prior year increase in trade receivables, a decrease in pension plan contributions, and the timing of normal payments and accruals.

### Investing Activities

Cash used for investing activities increased \$89.0, due primarily to higher additions to plant and equipment. Acquisitions in 2005, totaling \$58.6, principally included three U.S. homecare businesses. Acquisitions in 2004, totaling \$44.8, principally included two U.S. homecare businesses.

Capital expenditures are detailed in the following table:

	Six Months Ended 31 March	
	2005	2004
Additions to plant and equipment	\$ 427.7	\$ 327.7
Investment in and advances to unconsolidated affiliates	4.7	3.9
Acquisitions, less cash acquired	58.6	44.8
Capital leases	2.9	2.9
	\$ 493.9	\$ 379.3

### Financing Activities

Cash provided by financing activities decreased \$7.4 in 2005. The decrease is primarily due to increased dividends paid to shareholders of \$29.1, as a result of higher dividends per share and an increase in shares outstanding, partially offset by an increase in proceeds from stock option exercises of \$24.3.

Total debt at 31 March 2005 and 30 September 2004, expressed as a percentage of the sum of total debt, shareholders' equity, and minority interest, was 33% and 34%, respectively. Total debt increased from \$2,393.7 at 30 September 2004 to \$2,511.5 at 31 March 2005, due primarily to the impact of a weaker U.S. dollar on the translation of foreign currency debt and the issuance of \$50.0 of U.S. Industrial Revenue Bonds.

The estimated fair value of the company's long-term debt, including current portion, as of 31 March 2005 is \$2,516.9, compared to a book value of \$2,463.9.

At 31 March 2005, no borrowings were outstanding under the company's \$700 committed multicurrency revolving facility. The facility matures in December 2008.

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Additional commitments totaling \$45.2 are maintained by the company's foreign subsidiaries, of which \$5.2 was utilized at 31 March 2005.

On 10 March 2005, the company issued Euro 300.0 (\$388.7) of 3.875% Eurobonds maturing 10 March 2015. The proceeds were primarily used to repay the remaining Euro 280.7 (\$363.7) of 6% Eurobonds that matured on 30 March 2005.

On 17 March 2005, the Board of Directors authorized a \$500.0 share repurchase program. The company expects that a majority of its share repurchase program will be completed during calendar 2005, subject to market conditions.

On 17 March 2005, the Board of Directors increased the quarterly cash dividend 10%, from 29 cents to 32 cents per share. The dividend is payable on 9 May 2005 to shareholders of record at the close of business on 1 April 2005.

### **CONTRACTUAL OBLIGATIONS**

The company is obligated to make future payments under various contracts such as debt agreements, lease agreements, unconditional purchase obligations and other long-term obligations. There have been no material changes to contractual obligations as reflected in the Management's Discussion and Analysis in the company's 2004 annual report on Form 10-K. See the discussion of the issuance of Euro 300.0 under Financing Activities.

### **COMMITMENTS AND CONTINGENCIES**

In the normal course of business the company has commitments, lawsuits, contingent liabilities and claims. The company is also party to certain guarantee and warranty agreements. However, the company does not expect that any sum it may have to pay in connection with these matters will have a materially adverse effect on its consolidated financial condition, liquidity or results of operations. Refer to Note 19 to the consolidated financial statements in the company's 2004 annual report on Form 10-K and the Commitment and Contingencies note in this quarterly filing.

### **OFF-BALANCE SHEET ARRANGEMENTS**

There have been no material changes to off-balance sheet arrangements as reflected in the Management's Discussion and Analysis in the company's 2004 annual report on Form 10-K. The company's off-balance sheet arrangements are not reasonably likely to have a material impact on financial condition, changes in financial condition, results of operations, or liquidity.

### **RELATED PARTY TRANSACTIONS**

The company's principal related parties are equity affiliates operating in industrial gas and chemicals businesses. The company did not engage in any material transactions involving related parties that included terms or other aspects that differ from those which would be negotiated at arm's length with clearly independent parties.

### **MARKET RISKS AND SENSITIVITY ANALYSIS**

Information on the company's utilization of financial instruments and an analysis of the sensitivity of these instruments to selected changes in market rates and prices is included in the company's 2004 annual report on Form 10-K.

For foreign currency exchange risk, the sensitivity analysis assumes an instantaneous 10% change in the foreign currency exchange rates with all other variables (including interest rates) held constant. A 10% strengthening of the functional currency of an entity versus all other currencies would result in a decrease of \$223 and \$199 in the net

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liability position of financial instruments at 31 March 2005 and 30 September 2004, respectively. A 10% weakening of the functional currency of an entity versus all other currencies would result in an increase of \$216 and \$197 in the net liability position of financial instruments at 31 March 2005 and 30 September 2004, respectively.

The sensitivity analysis related to the fixed portion of the company's debt portfolio assumes an instantaneous 100 basis point move in interest rates with all other variables (including foreign exchange rates) held constant. A 100 basis point increase in market interest rates would result in a decrease of \$67 and \$40 in the net liability position of financial instruments at 31 March 2005 and 30 September 2004, respectively. A 100 basis point decrease in market interest rates would result in an increase of \$73 and \$43 in the net liability position of financial instruments at 31 March 2005 and 30 September 2004, respectively.

The net financial instrument position of the company increased from a liability of \$2,531.4 at 30 September 2004 to a liability of \$2,665.6 at 31 March 2005, primarily due to the issuance of additional long-term debt and the impact of a weaker U.S. dollar on the translation of foreign currency debt and the market value of foreign exchange forward contracts and interest rate and currency swaps.

### **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

Management's Discussion and Analysis of the company's financial condition and results of operations is based on the consolidated financial statements and accompanying notes that have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The significant accounting policies of the company are described in Note 1 to the consolidated financial statements and the critical accounting policies and estimates are described in the Management's Discussion and Analysis included in the 2004 annual report on Form 10-K. Information concerning the company's implementation and impact of new accounting standards issued by the Financial Accounting Standards Board (FASB) is included in the notes to the consolidated financial statements. There have been no other changes in accounting policy in the current period that had a material impact on the company's financial condition, change in financial condition, liquidity or results of operations.

### **NEW ACCOUNTING STANDARDS**

See the notes to the consolidated financial statements for information concerning the company's implementation and impact of new accounting standards.

### **FORWARD-LOOKING STATEMENTS**

The forward-looking statements contained in this document are based on current expectations regarding important risk factors. Actual results may differ materially from those expressed. Factors that might cause forward-looking statements to differ materially from actual results include those specifically referenced as future events or outcomes that the company anticipates, as well as, among other things, overall economic and business conditions different than those currently anticipated and demand for the company's goods and services during that time; competitive factors in the industries in which it competes; interruption in ordinary sources of supply; the ability to recover unanticipated increased energy and raw material costs from customers; uninsured litigation judgments or settlements; spikes in the pricing of natural gas; changes in government regulations; consequences of acts of war or terrorism impacting the United States' and other markets; charges related to currently unplanned portfolio management and cost reduction actions; the success of implementing cost reduction programs; the timing, impact, and other uncertainties of future acquisitions or divestitures; significant fluctuations in interest rates and foreign currencies from that currently anticipated; the impact of tax and other legislation and regulations in jurisdictions in which the company and its affiliates operate; the impact of new financial accounting standards, including the expensing of employee stock options; and the timing and rate at which tax credits can be utilized.



**Item 3. Quantitative and Qualitative Disclosures About Market Risk**

Refer to the Market Risks and Sensitivity Analysis on pages 30-31 of Item 2 in Management's Discussion and Analysis of Financial Condition and Results of Operations.

**Item 4. Controls and Procedures**

Under the supervision of the Chief Executive Officer and Chief Financial Officer, the company's management conducted an evaluation of the effectiveness of the design and operation of the company's disclosure controls and procedures as of 31 March 2005. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the design and operation of its disclosure controls and procedures have been effective. As previously disclosed, the company is in the midst of an SAP implementation. As a result, certain changes have been made to the company's internal control structure, in connection with the SAP implementation, which management believes will strengthen their internal control structure. There have been no other significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of such evaluation.

**PART II. OTHER INFORMATION**

**Item 4. Submission of Matters to a Vote of Security Holders**

- a. The Annual Meeting of Shareholders of the Registrant was held on 27 January 2005.
- b. The following directors were elected at the meeting: Michael J. Donahue, Ursula F. Fairbairn, John P. Jones III, and Lawrence S. Smith. Directors whose term of office continued after the meeting include: Mario L. Baeza, Edward E. Hagenlocker, Terrence Murray, W. Douglas Ford, James F. Hardymon, and Lawrason D. Thomas.
- c. The following matters were voted on at the Annual Meeting:
  - 1. Election of Directors

NAME OF DIRECTOR	NUMBER OF VOTES CAST			
	FOR	AGAINST OR WITHHELD	ABSTENTIONS	BROKER NON-VOTES
Michael J. Donahue	195,697,814	5,013,187	0	0
Ursula F. Fairbairn	195,791,351	4,919,650	0	0
John P. Jones III	194,480,350	6,230,651	0	0
Lawrence S. Smith	195,793,033	4,917,968	0	0

- 2. Ratification of the appointment of KPMG LLP of Philadelphia, Pennsylvania, as independent auditor for the registrant for the fiscal year ending 30 September 2005

NUMBER OF VOTES CAST			
FOR	AGAINST OR WITHHELD	ABSTENTIONS	BROKER NON-VOTES
198,276,987	1,059,466	1,368,946	5,602

**Item 6. Exhibits.**

Exhibits required by Item 601 of Regulation S-K

- 12. Computation of Ratios of Earnings to Fixed Charges.
- 31.1 Certification by the Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2 Certification by the Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32. Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

\_\_\_\_\_  
Air Products and Chemicals, Inc.

(Registrant)

Date: 27 April 2005

By: \_\_\_\_\_ /s/ Paul E. Huck

Paul E. Huck  
Vice President and Chief Financial Officer

**EXHIBIT INDEX**

- 12. Computation of Ratios of Earnings to Fixed Charges.
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- 32. Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

**AIR PRODUCTS AND CHEMICALS, INC., AND SUBSIDIARIES**  
**COMPUTATION OF RATIOS OF EARNINGS TO FIXED CHARGES**  
(Unaudited)

	Year Ended 30 September					Six Months Ended
	2000	2001	2002	2003	2004	31 Mar 2005
<b>Earnings:</b>						
Income from continuing operations	\$ 124.2	\$ 465.6	\$ 525.4	\$ 400.2	\$ 604.1	\$ 342.1
<b>Add (deduct):</b>						
Provision for income taxes	(7.5)	196.2	247.5	154.0	232.5	136.5
Fixed charges, excluding capitalized interest	232.6	226.5	150.3	150.6	149.3	72.1
Capitalized interest amortized during the period	6.6	7.1	7.2	6.5	9.1	3.2
Undistributed earnings of less-than-fifty-percent-owned affiliates	(32.1)	(34.3)	(42.8)	(2.6)	(31.1)	(22.3)
Earnings, as adjusted	<u>\$ 323.8</u>	<u>\$ 861.1</u>	<u>\$ 887.6</u>	<u>\$ 708.7</u>	<u>\$ 963.9</u>	<u>\$ 531.6</u>
<b>Fixed Charges:</b>						
Interest on indebtedness, including capital lease obligations	\$ 210.3	\$ 201.6	\$ 126.4	\$ 126.9	\$ 124.4	\$ 57.8
Capitalized interest	19.7	8.8	11.7	6.2	7.9	6.6
Amortization of debt discount premium and expense	3.1	5.6	2.2	2.1	1.4	2.5
Portion of rents under operating leases representative of the interest factor	19.3	19.3	21.7	21.6	23.5	11.8
Fixed charges	<u>\$ 252.4</u>	<u>\$ 235.3</u>	<u>\$ 162.0</u>	<u>\$ 156.8</u>	<u>\$ 157.2</u>	<u>\$ 78.7</u>
<b>Ratio of Earnings to Fixed Charges (1):</b>	<u>1.3</u>	<u>3.7</u>	<u>5.5</u>	<u>4.5</u>	<u>6.1</u>	<u>6.8</u>

(1) The ratio of earnings to fixed charges is determined by dividing earnings, which includes income before taxes, undistributed earnings of less than fifty percent owned affiliates, and fixed charges, by fixed charges. Fixed charges consist of interest on all indebtedness plus that portion of operating lease rentals representative of the interest factor (deemed to be 21% of operating lease rentals).

**PRINCIPAL EXECUTIVE OFFICER'S CERTIFICATION**

I, John P. Jones III, certify that:

1. I have reviewed this quarterly report on form 10-Q of Air Products and Chemicals, Inc.;
  2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
  3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
  4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
  5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's
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auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

- (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 27 April 2005

/s/ John P. Jones III

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John P. Jones III  
Chairman, President, and Chief Executive Officer

**PRINCIPAL FINANCIAL OFFICER'S CERTIFICATION**

I, Paul E. Huck, certify that:

1. I have reviewed this quarterly report on form 10-Q of Air Products and Chemicals, Inc.;
  2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
  3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
  4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
  5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's
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auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

- (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 27 April 2005

/s/ Paul E. Huck  
\_\_\_\_\_  
Paul E. Huck  
Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO SECTION 906 OF THE  
SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Air Products and Chemicals, Inc. (the "Company") on Form 10-Q for the period ending 31 March 2005, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, John P. Jones III, Chief Executive Officer of the Company, and Paul E. Huck, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: 27 April 2005

\_\_\_\_\_  
/s/ John P. Jones III

John P. Jones III  
Chief Executive Officer

\_\_\_\_\_  
/s/ Paul E. Huck

Paul E. Huck  
Chief Financial Officer