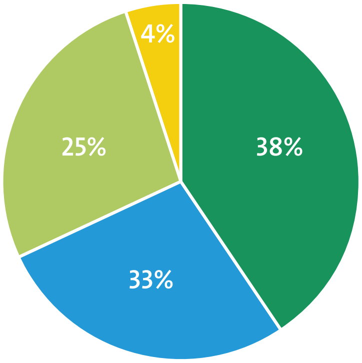
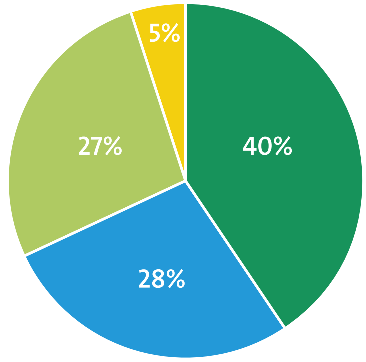
2012 ANNUAL REPORT

Financial highlights



Consolidated sales by business segment

- Merchant Gases
- Tonnage Gases
- Electronics and Performance Materials
- Equipment and Energy



Consolidated sales by destination

- U.S./Canada
- Europe
- Asia
- Latin America

Millions of dollars, except per share	**2012**	2011	Change
FOR THE YEAR			
Sales	**$9,612**	$9,674	(1%)
Operating income [(A)]	**1,534**	1,557	(1%)
Net income from continuing operations attributable to Air Products [(A)]	**1,159**	1,166	(1%)
Capital expenditures [(A)]	**2,778**	1,539	80%
Return on capital employed [(A)]	**11.5%**	12.5%	
Return on average Air Products shareholders' equity [(A) (B)]	**18.7%**	20.0%	
Operating margin [(A)]	**16.0%**	16.1%	
PER SHARE DOLLARS			
Diluted earnings [(A)]	**5.40**	5.36	1%
Dividends	**2.50**	2.23	12%
Book value	**30.48**	27.57	11%
AT YEAR END			
Air Products shareholders' equity	**$6,477**	$5,796	
Shares outstanding (in millions)	**212**	210	
Shareholders	**7,500**	7,900	
Employees [(C)]	**21,300**	18,900	

(A) Amounts are non-GAAP measures. See pages V and VI for reconciliation to GAAP results.
(B) Calculated using income from continuing operations attributable to Air Products and five-quarter average Air Products shareholders' equity.
(C) Includes full- and part-time employees from continuing and discontinued operations.

On the cover

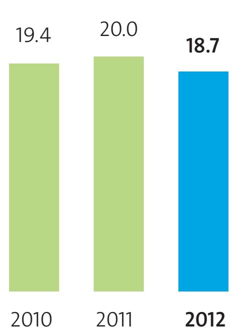
Employee Marcio Feistel places the Air Products logo on the Guaiba, Brazil plant.

Photograph by Elio Abe, account executive, Brazil Liquid Bulk.

This photo was the winner of Air Products' companywide employee photograph contest.

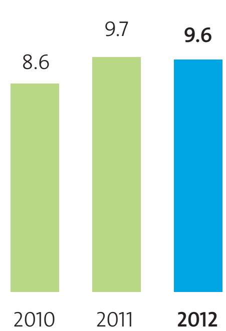
Return on Air Products shareholders' equity [(A)]

Percentage using income from continuing operations and Air Products shareholders' equity



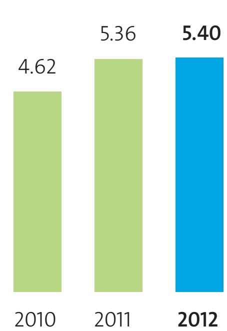
Sales

Billions of dollars



Earnings per share [(A)]

Dollars—diluted basis using income from continuing operations



Our businesses

Merchant Gases

Merchant Gases are widely used throughout industry as well as in the environmental, healthcare, food and hospitality sectors. We serve over half a million customers worldwide. Our portfolio includes oxygen, nitrogen, argon, carbon dioxide, helium, and hydrogen, as well as a wide range of gas mixtures. These gases are supplied compressed in cylinders, as cryogenic liquids, or through gas generators. We combine our gas supply capability with unique technical expertise to deliver a gas supply solution well suited to each customer's particular requirement.

2012 consolidated sales: $3.7 billion

Major end markets: glassmaking, steel, nonferrous, oil field services, pulp and paper, water systems, metal manufacturing, chemical processing, rubber and plastics, packaging, food and beverage, healthcare, research and analytical, aerospace, and electronics

This past year, Air Products purchased a majority stake in Indura, then the largest independent industrial gas company in South America.

Tonnage Gases, Equipment and Energy

Through our Tonnage Gases segment, we supply hydrogen, carbon monoxide, synthesis gas, nitrogen and oxygen via large on-site facilities or pipeline systems to meet the needs of large-volume, or tonnage, industrial gas users. We either construct a gas plant adjacent to or near the customer's facility or deliver product through a pipeline from a nearby location. In our Equipment and Energy segment, we design and manufacture cryogenic and gas processing equipment for air separation, hydrocarbon recovery and purification, and natural gas liquefaction (LNG), and equipment for helium distribution. We are pioneering technologies to serve the changing needs of future industrial and energy markets.

2012 consolidated sales: $3.6 billion

Major end markets: petroleum refining, chemical and petrochemical manufacturing, oil and gas recovery and processing, coal gasification, steel, and primary metals processing

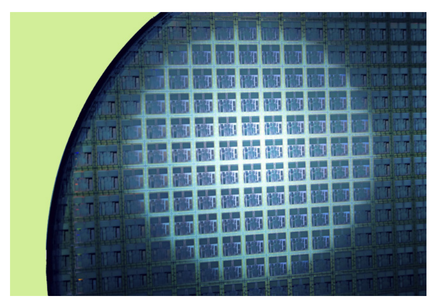
Air Products completed the world's largest hydrogen pipeline on the U.S. Gulf Coast in 2012. The new 180-mile segment unites the Company's Louisiana and Texas pipeline systems to provide unprecedented product supply and reliability to customers.

Electronics and Performance Materials

In our Electronics business, we offer a reliable and sustainable source of high-purity electronics gases and materials together with services and related equipment to enable silicon and compound semiconductors and LCDs to power our digital world. In our performance materials end markets, our expertise in surface chemistry is being put to work to develop better-performing products and eco-friendly formulations.

2012 consolidated sales: $2.3 billion

Major end markets: silicon and compound semiconductors (ICs), thin-film transistor liquid crystal displays (TFT-LCDs), LEDs, coatings, inks, adhesives, civil engineering, personal care, institutional and industrial cleaning, mining, oil field, and polyurethane production



Air Products' gases, materials, and equipment are used by Electronics customers around the world to build and power digital devices such as tablets, smartphones, and computers.

Dear Shareholder,

Last year, I outlined what I called our winning strategy. I commented that a winning strategy takes time, thought, and much consideration. We defined our strategy as: **winning** in the energy, environmental and emerging markets; **executing** on innovation, integration and improvement; **delivering** on revenue, margin and return goals.

The last year was one of strategic investment and portfolio actions for Air Products, with a focus on future growth. While I am very satisfied with the portfolio actions we took, I am also very disappointed with our overall performance in 2012. We did not meet your expectations, and I know that we need to deliver better results for our shareholders in 2013.

I remain convinced that our strategy is the right one and is robust enough to cope with the changing winds of the world economy. What we are doing now is increasing our focus on execution as we work through these difficult economic headwinds.

A Strategy for Success

Winning in energy, environmental and emerging Markets

Executing on innovation, integration and improvement Actions

Delivering on revenue, margin and return Goals

Generating Shareholder Value

Fiscal 2012 results

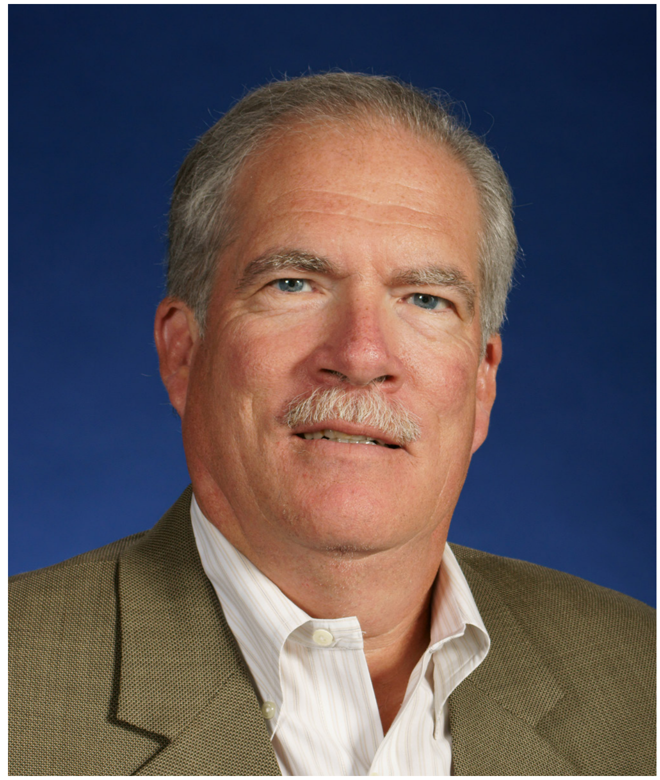
Global manufacturing growth continued to slow in 2012, which impacted our results. Sales of $9.6 billion decreased one percent. Underlying sales grew one percent from higher Tonnage volumes, which were partially offset by weakness across our Merchant segment, particularly in Europe.

Operating income of $1.5 billion* decreased one percent. Adjusted earnings per share increased one percent to $5.40.* Margin for the year was 16 percent.*

After tax return on capital employed (ROCE) decreased by 100 basis points to 11.5 percent,* primarily due to acquisitions, weak asset loading and increased capital spending. This is still well above our cost of capital of eight percent. Our operating cash flow was once again strong this year, with a three percent increase over FY2011.

Capital expenditure was $2.8 billion,* which includes our investment in INDURA. Excluding INDURA, capital spending increased 36 percent versus last year.

We are very proud that this is our thirtieth year of increased dividend for shareholders.



Chairman and CEO John McGlade.

Winning more in energy, environmental and emerging markets

The challenges of the global economy did not stop us winning profitable new business in the energy, environmental and emerging markets.

We are winning in China, with four further contracts for large-scale oxygen for coal gasification. Currently, we are executing six projects in this exciting growth market totaling over 28,000 tons per day of oxygen.

We are winning in hydrogen, including our investment in the world's largest hydrogen pipeline network in the U.S. Gulf Coast, which we completed in 2012. This strengthens our position as the world's leading supplier of hydrogen. In Texas and Louisiana, we now have more than 20 plants connected via this system, creating unrivaled supply for our customers and prospects while enabling us to optimize the energy cost and volumes from the system. Our most recent new deal with Motiva, announced in May, was in part due to this investment.

We are winning in Electronics with our on-site model. This year, we announced new business with Samsung for their large new complex in Xian, China and UMC to support their growth in Tainan, Taiwan.

We are winning in LNG, securing new orders in Malaysia and Australia.

And we are set to win from our exciting new waste-to-energy project in the U.K., which draws on our vast on-site business and operating experience.

Taking the right portfolio actions

We took actions to rebalance our portfolio, exiting businesses that no longer fit our strategy and adding ones that do, particularly in emerging markets.

We sold our European homecare business due to the trends toward concentrator and non-oxygen therapies and expect to exit the remaining business in the U.K. and Ireland by early 2013. We also announced that we are exiting the polyurethane intermediates business and are restructuring our photovoltaic business to reflect changing market conditions.

I am excited to have secured our investment in INDURA, which was the largest independent industrial gases business in South America, giving us a superb position to combine our respective strengths in the region.

In the Middle East, we are now a 25 percent partner with Saudi Arabia's largest industrial gas company, Abdullah Hashim Group. We also entered a new joint venture with The Arabian Company for Power and Water Development to target large-scale industrial gas projects, also in Saudi Arabia. Finally, we secured the remaining 50 percent of our DA NanoMaterials joint venture, boosting our Electronics division, and purchased a small but strategically important position for our Performance Materials Division.

*Certain amounts and comparisons to the prior year in this letter are considered non-GAAP measures. Please see pages V and VI for the comparable GAAP amounts and reconciliations.

Taking challenging actions to improve results

The economy did not grow as we expected in our fiscal year 2012. This clearly impacted our performance. As I look to 2013, we continue to predict modest manufacturing growth, and distinct concerns remain in Asia, Europe and North America.

In response, we are taking challenging actions to prepare for what could be an extended slowdown and to improve our performance in critical areas.

I have asked the Air Products team to concentrate on these five immediate priorities, with the intention that we get our margin and return improvement goals back on track.

1. **Merchant**: increase volume loading on our existing assets to boost earnings, margins and returns.
2. **Tonnage**: execute our new projects on time and on budget, and improve our plant efficiencies for better returns.
3. **Electronics and Performance Materials**: focus on major customers and introduce new offerings that improve both margins and returns.
4. **Pricing**: use the tools we have invested in to take effective pricing actions in our Merchant, Electronics, and Performance Materials businesses.
5. **Productivity and cost reduction**: we have seen the benefit of our efforts in these areas in 2012. Going forward, we need to increase our efforts and deliver greater benefits in the future.

The right goals

When we outlined our financial goals last year, we knew they were challenging but attainable. Since then, the global economy has only delivered about half of the approximately five percent manufacturing growth that formed the basis for our ability to reach those targets in 2015.

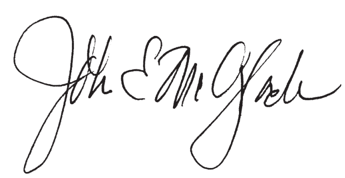
Given that reality, we have had to accept that we will be unlikely to meet those goals by 2015. While we are not in a position to commit to a specific time frame to achieve these goals, I want to be clear that we are not dismissing them. As part of our response, we are rebalancing what we focus on in the near term, with margin and ROCE improvements our highest priority.

To be clear, I continue to firmly believe that these are the right goals for Air Products.

We are not taking our eye off of future growth either; our recent portfolio actions, a healthy project backlog, and our commitment to CAPEX in fiscal year 2013 comparable to fiscal year 2012 (excluding INDURA) are testimony to that. We will continue to be disciplined about the projects we select.

There are many great things about Air Products, most importantly our employees. One of our proven traits is responding with a sense of urgency when there is a need to act. With over 21,000 employees taking actions to address our margin and return goals and meet our shareholders' expectations, there will be no stopping us.

Very truly yours,



John E. McGlade
Chairman, President and Chief Executive Officer

Non-GAAP measures

(Millions of dollars, except per share)

The Financial Highlights and Letter to Shareholders contain non-GAAP measures. These measures adjust results to exclude the effect of several items that are detailed in the Notes to the consolidated financial statements. The presentation of non-GAAP measures is intended to enhance the usefulness of financial information by providing measures which our management uses internally to evaluate our baseline performance on a comparable basis. Presented below are reconciliations of the reported GAAP results to non-GAAP measures.

Consolidated results

	Continuing Operations			
	Operating Income	Operating Margin	Income	Diluted EPS
2012 GAAP	**$1,282.4**	**13.3%**	**$ 999.2**	**$4.66**
2011 GAAP	1,508.1	15.6%	1,134.3	5.22
Change GAAP	(15)%	(230 bp)	(12)%	(11)%
2012 GAAP	**$1,282.4**	**13.3%**	**$ 999.2**	**$4.66**
PV market actions	186.0	2.0%	127.0	.59
Cost reduction plan	86.8	.9%	60.6	.28
PUI business actions	54.6	.6%	34.8	.16
Customer bankruptcy	9.8	.1%	6.1	.03
Gain on previously held equity interest	(85.9)	(.9)%	(54.6)	(.25)
Q1 Spanish tax settlement	—	—	43.8	.20
Q2 Spanish tax settlement	—	—	(58.3)	(.27)
2012 Non-GAAP Measure	**$1,533.7**	**16.0%**	**$1,158.6**	**$5.40**
2011 GAAP	$1,508.1	15.6%	$ 1,134.3	$ 5.22
Net loss on Airgas transaction	48.5	.5%	31.6	.14
2011 Non-GAAP measure	$1,556.6	16.1%	$ 1,165.9	$ 5.36
Change Non-GAAP Measure	(1)%	(10 bp)	(1)%	1%

Return on Air Products shareholders' equity

Return on Air Products shareholders' equity is calculated as net income divided by five-quarter average Air Products shareholders' equity. On a non-GAAP basis, net income has been adjusted for the impact of the disclosed items detailed below.

	2012	2011	2010
Five-quarter average Air Products shareholders' equity	**$ 6,191.7**	$5,842.0	$5,173.9
Income from continuing operations – GAAP	**999.2**	1,134.3	941.6
PV market actions	**127.0**		
Cost reduction plan	**60.6**		
PUI business actions	**34.8**		
Customer bankruptcy	**6.1**		
Gain on previously held equity interest	**(54.6)**		
Q1 Spanish tax settlement	**43.8**		
Q2 Spanish tax ruling	**(58.3)**		
Net loss on Airgas transaction		31.6	60.1
Income from Continuing Operations – Non-GAAP	**$ 1,158.6**	$1,165.9	$1,001.7
Return on Air Products Shareholders' Equity – GAAP	**16.1%**	19.4%	18.2%
Return on Air Products Shareholders' Equity – Non-GAAP	**18.7%**	20.0%	19.4%

Return on capital employed (ROCE)

ROCE is calculated as earnings after-tax divided by five-quarter average total capital. Earnings after-tax is defined as operating income and equity affiliates' income, after tax, at our quarterly effective tax rate. On a non-GAAP basis, operating income and taxes have been adjusted for the impact of the disclosed items detailed below. Total capital consists of total debt and total equity.

	2012	2011
Earnings before-tax GAAP	$ 1,436.2	$ 1,662.4
PV market actions	186.0	
Cost reduction plan	86.8	
PUI business actions	54.6	
Customer bankruptcy	9.8	
Gain on previously held equity interest	(85.9)	
Net loss on Airgas transaction		48.5
Earnings Before-Tax Non-GAAP	$ 1,687.5	$1,710.9

	2012	2011	Basis Point Change
Earnings after-tax GAAP	$ 1,126.7	$ 1,259.1	
Five-quarter average total capital	11,096.0	10,316.1	
ROCE GAAP	10.2%	12.2%	(200)

	2012	2011	Basis Point Change
Earnings after-tax non-GAAP	$ 1,278.6	$ 1,290.3	
Five-quarter average total capital	11,096.0	$10,316.1	
ROCE Non-GAAP	11.5%	12.5%	(100)

Capital expenditures

We utilize a non-GAAP measure in the computation of capital expenditures and include spending associated with facilities accounted for as capital leases and purchases of noncontrolling interests. Certain contracts associated with facilities that are built to provide product to a specific customer are required to be accounted for as leases, and such spending is reflected as a use of cash within cash provided by operating activities. Additionally, the purchase of noncontrolling interests in a subsidiary is accounted for as an equity transaction and will be reflected as a financing activity in the consolidated statement of cash flows.

	2012	2011	Change
Capital expenditures – GAAP measure	$2,559.8	$1,365.9	87%
Capital lease expenditures	212.2	173.5	
Noncurrent liability related to purchase of shares from noncontrolling interests	6.3	—	
Capital Expenditures – Non-GAAP Measure	$2,778.3	$1,539.4	80%
Capital expenditures for a controlling interest in INDURA	689.6	—	
Capital Expenditures – Non-GAAP Measure Excluding INDURA	$2,088.7	$1,539.4	36%

	2013 Forecast
Capital expenditures – GAAP measure	$1,750–$1,850
Capital lease expenditures	250–350
Capital Expenditures – non-GAAP basis	$2,000–$2,200
Change GAAP	(32)%–(28)%
Change non-GAAP	(28)%–(21)%

Shareholders' information

Common stock information

Ticker Symbol: APD
Exchange Listing: New York Stock Exchange

Transfer Agent and Registrar:
American Stock Transfer and Trust Company
6201 15th Ave., Brooklyn, NY 11219
Telephone: 800-937-5449
Internet: www.amstock.com
E-mail: info@amstock.com

Publications for shareholders

In addition to this Annual Report on Form 10-K for the fiscal year ended September 30, 2012, Air Products informs shareholders about Company news through:

Notice of Annual Meeting and Proxy Statement – made available to shareholders in mid-December and posted to the Company's website at www.airproducts.com/annualmeetingmaterials.

Earnings information—shareholders and investors can obtain copies of earnings releases, Annual Reports, 10-Ks and news releases by visiting www.airproducts.com/investors/overview. Shareholders and investors can also register for e-mail updates at that website.

Dividend policy

Dividends on Air Products' common stock are declared by the board of directors and, when declared, usually will be paid during the sixth week after the close of the fiscal quarter. It is the Company's objective to pay dividends consistent with the reinvestment of earnings necessary for long-term growth.

Direct investment program

Current shareholders and new investors can conveniently and economically purchase shares of Air Products' common stock and reinvest cash dividends through American Stock Transfer and Trust Company. Registered shareholders can purchase shares on American Stock Transfer and Trust's website, www.investpower.com. New investors can obtain information on the website or by calling 877-322-4941 or 718-921-8200.

Annual meeting

The annual meeting of shareholders will be held on Thursday, January 24, 2013.

Terminology

The term Air Products and Chemicals, Inc., as used in this Report, refers solely to the Delaware corporation of that name. The use of such terms as Air Products, Company, division, organization, we, us, our and its, when referring to either Air Products and Chemicals, Inc. and its consolidated subsidiaries or to its subsidiaries and affiliates, either individually or collectively, is only for convenience and is not intended to describe legal relationships. Significant subsidiaries are listed as an exhibit to the Form 10-K Report filed by Air Products and Chemicals, Inc. with the Securities and Exchange Commission. Groups, divisions or other business segments of Air Products and Chemicals, Inc. described in this Report are not corporate entities.

Annual certifications

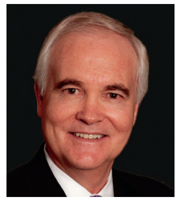
The most recent certifications by our Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 are filed as exhibits to our Form 10-K. We have also filed with the New York Stock Exchange the most recent Annual CEO Certification as required by Section 303A.12(a) of the New York Stock Exchange Listed Company Manual.

Additional information

The forward-looking statements contained in this Report are qualified by reference to the section entitled "Forward-Looking Statements" on page 41 of the Form 10-K section.

Board of Directors

John E. McGlade
Chairman, President and Chief Executive Officer of Air Products.
Director since 2007.



Chadwick C. Deaton
Chairman of Baker Hughes Inc.
Director since 2010.

Evert Henkes (Presiding Director)
Former Chief Executive Officer of Shell Chemicals Ltd.
Director since 2006.

Mario L. Baeza
Founder and Controlling Shareholder of Baeza & Co. and Founder and Executive Chairman of V-Me Media, Inc.
Director since 1999.

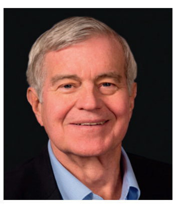
Michael J. Donahue
Former Group Executive Vice President and Chief Operating Officer of BearingPoint, Inc.
Director since 2001.

Margaret G. McGlynn
President and Chief Executive Officer of International AIDS Vaccine Initiative.
Director since 2005.

Susan K. Carter
Executive Vice President and Chief Financial Officer of KBR, Inc.
Director since 2011.

Ursula O. Fairbairn
President and Chief Executive Officer of Fairbairn Group, LLC.
Director since 1998.

Lawrence S. Smith
Former Chief Financial Officer of Comcast Corporation.
Director since 2004.



William L. Davis, III
Former Chairman, President and Chief Executive Officer of RR Donnelley & Sons Company.
Director since 2005.

W. Douglas Ford
Former Chief Executive, Refining and Marketing, of BP Amoco plc.
Director since 2003.

Corporate Executive Committee

John E. McGlade
Chairman, President and Chief Executive Officer.

John Marsland
Senior Vice President and General Manager—Merchant Gases.

John D. Stanley
Senior Vice President and General Counsel.

Paul E. Huck
Senior Vice President and Chief Financial Officer.

Guillermo Novo
Senior Vice President and General Manager—Electronics, Performance Materials, Strategy and Technology.

Stephen J. Jones
Senior Vice President and General Manager—Tonnage Gases, Equipment and Energy and China President.

Corning F. Painter
Senior Vice President—Supply Chain.

For more information about corporate governance practices at Air Products, visit our Corporate Responsibility website at www.airproducts.com/responsibility.

For more information, please contact us at:

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7201 Hamilton Boulevard
Allentown, PA 18195-1501
T 610-481-4911
F 610-481-5900

Corporate Secretary's Office
T 610-481-7067

Investor Relations Office
Simon Moore, Director
T 610-481-5775

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airproducts.com