

Registration No. _____

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

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 18195-1501

(Address of Principal Executive Offices) (Zip Code)

Air Products and Chemicals, Inc. Retirement Savings and Stock Ownership Plan

(Full Title of the Plan)

W. Douglas Brown, Vice President, General Counsel and Secretary
Air Products and Chemicals, Inc., 7201 Hamilton Boulevard, Allentown, PA
18195-1501

(Name and Address of Agent for Service)

610-481-4911

(Telephone Number, Including Area Code, of Agent for Service)

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee(1)
Common Stock, par value \$1	11,880,000	\$47.86	\$568,576,800	\$72,038.68

In addition, pursuant to Rule 416(c) under the Securities Act of 1933, this registration statement also covers an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plan described herein.

- (1) The registration fee with respect to these shares has been computed in accordance with paragraphs (c) and (h) of Rule 457, based upon the average of the reported high and low sale prices of shares of Common Stock on 18 March 2004 (i.e., \$47.86 per share).

Air Products and Chemicals, Inc. (the "Company"), by the filing of this Registration Statement, hereby registers additional shares of common stock of the Company for offer and sale pursuant to the Retirement Savings and Stock Ownership Plan (the "Plan"), together with additional interests to be offered and sold pursuant to the Plan. These are securities of the same class as the securities registered for offer and sale pursuant to the Plan under the Registration Statements on Form S-8 referenced below, the contents of which are incorporated herein by reference:

NUMBER	DATE FILED
033-31195	October 12, 1989

ITEM 8. EXHIBITS.

- 23. Consent of KPMG LLP
- 23A. Consents of Arthur Andersen LLP (omitted pursuant to Rule 437a as described in the Exhibit Index for the Registration Statement)
- 24. Power of Attorney

SIGNATURES

The Registrant. Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Allentown, Commonwealth of Pennsylvania, on this 24th day of March 2004.

AIR PRODUCTS AND CHEMICALS, INC.
(Registrant)

By: /s/ W. Douglas Brown

W. Douglas Brown*
Vice President, General Counsel
and Secretary

* W. Douglas Brown, Vice President, General Counsel and Secretary, by signing his name hereto, signs this Registration Statement on behalf of the registrant and, for each of the persons indicated by asterisk on pages 3, 4, and 5 hereof, pursuant to a power of attorney duly executed by such persons which is filed with the Securities and Exchange Commission herewith.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

SIGNATURE -----	TITLE -----	DATE -----
<p style="text-align: center;">/s/ John P. Jones III ----- John P. Jones III</p>	<p>Director, Chairman of the Board, President, and Chief Executive Officer (Principal Executive Officer)</p>	<p>24 March 2004</p>
<p style="text-align: center;">/s/ Paul E. Huck ----- Paul E. Huck</p>	<p>Vice President and Chief Financial Officer (Principal Financial Officer and Accounting Officer)</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- Mario L. Baeza</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- Michael J. Donahue</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- Ursula F. Fairbairn</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- W. Douglas Ford</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- Edward E. Hagenlocker</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- James F. Hardymon</p>	<p>Director</p>	<p>24 March 2004</p>
<p style="text-align: center;">* ----- Terrence Murray</p>	<p>Director</p>	<p>24 March 2004</p>

SIGNATURE

TITLE

DATE

*

Director

24 March 2004

Paula G. Rosput

*

Director

24 March 2004

Lawrason D. Thomas

The Plan. Pursuant to the requirements of the Securities Act of 1933, the Air Products and Chemicals, Inc. Retirement Savings and Stock Ownership Plan has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Allentown, Commonwealth of Pennsylvania, on 24 March 2004.

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS AND STOCK
OWNERSHIP PLAN
(The Plan)

By /s/ W. D. Brown

W. D. Brown

Employee Benefit Plans Committee Chairman
and Member

By /s/ L. K. Stewart

L. K. Stewart

Employee Benefit Plans Committee Member

By /s/ J. P. Jones III

J. P. Jones III

Employee Benefit Plans Committee Member

By /s/ L. C. Minella

L. C. Minella

Employee Benefit Plans Committee Member

EXHIBIT INDEX

23. Consent of KPMG LLP

23A. Consent of Arthur Andersen LLP (omitted pursuant to rule 437a as described in the Exhibit)

24. Power of Attorney

No opinion of counsel is being filed because the Common Stock to be distributed in connection with the Plan will not constitute original issuance shares; further, no opinion is being furnished with respect to ERISA compliance because the Company has submitted the Plan to the Internal Revenue Service (the "IRS") in a timely manner and has received a favorable determination letter from the IRS dated 20 August 2003, finding that the Plan is qualified under section 401 of the Internal Revenue Code.

Independent Auditors' Consent

To the Shareholders and Board of Directors
Air Products and Chemicals, Inc.:

We consent to the use of our report dated 24 October 2003, with respect to the consolidated balance sheets of Air Products and Chemicals, Inc. and subsidiaries as of 30 September 2003 and 2002, and the related consolidated statements of income, cash flows and shareholders' equity for the years then ended, incorporated herein by reference.

Our report contains an explanatory paragraph relating to the fact that the financial statements of Air Products and Chemicals, Inc. and subsidiaries for the year ended 30 September 2001 were audited by other auditors who have ceased operations. As described in Note 1 to the financial statements, those financial statements have been revised. We audited the adjustments described in Note 1 that were applied to revise the 2001 financial statements. In addition, as described in Note 10, the financial statements have been revised to include the transitional disclosures required by Statement of Financial Accounting Standards No. 142, "Goodwill and Other Intangible Assets," which was adopted as of 1 October 2001. However, we were not engaged to audit, review, or apply any procedures to the 2001 financial statements of Air Products and Chemicals, Inc. and subsidiaries other than with respect to such adjustments and disclosures, and, accordingly, we do not express any opinion or any other form of assurance on the 2001 financial statements taken as a whole.

/s/KPMG LLP

Philadelphia, Pennsylvania
19 March 2004

Consent of Arthur Andersen LLP

The Company's financial statements for the year ended September 30, 2001, incorporated herein by reference to the Company's Annual Report on Form 10-K for the year ended September 30, 2003, were audited by Arthur Andersen LLP ("Andersen"). Subsequently, Andersen was dismissed as the Company's independent auditors.

Section 11(a) of the Securities Act of 1933 (the "Act") provides that in case any part of a registration statement, at the time it became effective, contains an untrue statement of a material fact or omits to state a material fact necessary to make the statements therein not misleading, any person acquiring a security pursuant to the registration statement (unless at the time of such acquisition he knew of the untruth or omission) may sue, among others, any accountant who has consented to be named in the registration statement as having prepared or certified such part of the registration statement. After reasonable efforts, the Company has been unable to obtain the consent of Andersen to the incorporation by reference in this Registration Statement of Andersen's reports on its audit of the Company's financial statements referred to above. Under these circumstances, Rule 437a under the Act permits the Company to file this Registration Statement without such consents. Without such consents, a person acquiring shares of the Company pursuant to this Registration Statement will be unable to assert a claim against Andersen under Section 11(a) of the Act in the event of an untrue statement of material fact or a material omission in the financial statements audited by Andersen or in its reports with respect thereto.

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints JOHN P. JONES III or PAUL E. HUCK or W. DOUGLAS BROWN, acting severally, his/her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him/her and in his/her name, place and stead, in any and all capacities, to sign one or more Registration Statements, and any amendments thereto, which may be required in connection with (i) the registration of Common Stock, Preferred Stock, Depositary Shares, Debt Securities, and Warrants, including the registration of Common Stock for issuance under any employee benefit or compensation plan, (ii) the registration of interests under any employee benefit or compensation plan maintained by the Company or (iii) any fundamental change in the information contained in such Registration Statements, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he/she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities and Exchange Act of 1933, this Power of Attorney has been signed below by the following persons in the capacities and on the dates indicated.

SIGNATURE -----	TITLE -----	DATE -----
/s/ John P. Jones III ----- John P. Jones III	Director, Chairman of the Board (Principal Executive Officer)	18 March 2004
/s/ Mario L. Baeza ----- Mario L. Baeza	Director	18 March 2004
/s/ Michael J. Donahue ----- Michael J. Donahue	Director	18 March 2004

SIGNATURE

TITLE

DATE

/s/ Ursula F. Fairbairn

Director

18 March 2004

Ursula F. Fairbairn

/s/ W. Douglas Ford

Director

18 March 2004

W. Douglas Ford

/s/ Edward E. Hagenlocker

Director

18 March 2004

Edward E. Hagenlocker

/s/ James F. Hardymon

Director

18 March 2004

James F. Hardymon

/s/ Terrence Murray

Director

18 March 2004

Terrence Murray

/s/ Paula G. Rosput

Director

18 March 2004

Paula G. Rosput

/s/ Lawrason D. Thomas

Director

18 March 2004

Lawrason D. Thomas