SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549



FORM 11-K

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

(Mark One):

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the fiscal year ended December 31, 2003

OR

□ TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

Commission file number 1-14601

For the transition period from

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

ARCH CHEMICALS, INC. CONTRIBUTING EMPLOYEE OWNERSHIP PLAN

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

Arch Chemicals, Inc. 501 Merritt 7
Norwalk, Connecticut 06851

Total Pages = 18 Exhibit Index 6 P. 17 MM



REQUIRED INFORMATION

ARCH CHEMICALS, INC. CONTRIBUTING EMPLOYEE OWNERSHIP PLAN

Financial Statements and Supplemental Schedules

December 31, 2003 and 2002

(With the Report of Independent Registered Public Accounting Firm Thereon)



KPMG LLP

Stamford Square 3001 Summer Street Stamford, CT 06905

Report of Independent Registered Public Accounting Firm

The Plan Administrator of the Arch Chemicals Inc. Contributing Employee Ownership Plan:

We have audited the accompanying statements of net assets available for plan benefits of the Arch Chemicals Inc. Contributing Employee Ownership Plan as of December 31, 2003 and 2002, and the related statements of changes in net assets available for plan benefits for the years then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for plan benefits of the Arch Chemicals Inc. Contributing Employee Ownership Plan as of December 31, 2003 and 2002, and the changes in net assets available for plan benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule of Assets (Held at End of Year) and Schedule of Reportable Transactions are presented for the purpose of additional analysis and are not a required part of the basic financial statements but are supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. These supplemental schedules are the responsibility of the Plan's management. The supplemental schedules have been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG LLP

June 24, 2004



Statements of Net Assets Available for Plan Benefits

December 31, 2003 and 2002

	2003	2002
Assets:		
Investments, at fair value	\$ 145,818,011	111,956,609
Participant loans	3,956,974	3,890,577
Total investments	149,774,985	115,847,186
Employer contribution receivable	1,263,673	1,112,170
Participant contributions receivable	107,018	79,422
Securities sold and not yet settled		22,150
Net assets available for plan benefits	\$151,145,676	117,060,928

See accompanying notes to financial statements.

Statements of Changes in Net Assets Available for Plan Benefits Years ended December 31, 2003 and 2002

		2003	2002
Additions (reductions) in net assets: Investment income:			
Net appreciation (depreciation) in fair value of investments Dividends Interest Interest from participant loans	\$	28,448,422 2,828,838 113,169 212,729	(20,205,810) 3,019,959 197,791 265,504
Net investment income (loss)	_	31,603,158	(16,722,556)
Contributions: Participant Employer	_	7,747,733 3,886,698	7,516,173 3,896,311
Total contributions	_	11,634,431	11,412,484
Net transfers in from other plans	_		17,750
Total additions (reductions)		43,237,589	(5,292,322)
Deductions in net assets: Administrative expenses Withdrawals in cash and stock to participants Other		91,812 9,059,215 1,814	90,536 9,518,870 —
Total deductions	_	9,152,841	9,609,406
Net increase (decrease)		34,084,748	(14,901,728)
Net assets available at beginning of year	_	117,060,928	131,962,656
Net assets available at end of year	\$ _	151,145,676	117,060,928

See accompanying notes to financial statements.

Notes to Financial Statements December 31, 2003 and 2002

(1) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying financial statements have been prepared on the accrual basis and present net assets available for plan benefits and changes in net assets available for plan benefits.

(b) Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

(c) Investment Valuation and Income Recognition

The Plan's investments are stated at fair value except for participant loans which are stated at cost, which approximates fair value. When available, quoted market prices are used to value investments. Commingled holdings, which include the Barclays Global Investors Equity Index Fund, are valued by the issuing investment manager.

Purchases and sales of securities are recorded on a trade-date basis. All income is determined on a full accrual basis. Bond interest accrues daily and dividends are recorded on the ex-dividend date.

(d) Payment of Withdrawals

Withdrawals are recorded when paid.

(e) Reclassifications

Certain reclassifications have been made to amounts in prior period to conform to the current period presentation.

(2) Description of the Plan

The following description of Arch Chemicals Inc. (Arch, the Plan Sponsor or the Employer) Contributing Employee Ownership Plan (the Plan or CEOP) provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

(a) General

The Plan is a defined contribution plan sponsored by Arch with a cash or deferred arrangement and is intended to satisfy the qualification requirements under Sections 401(a) and 401(k) of the Internal Revenue Code of 1986, as amended (the Code). In addition, a portion of the Plan is intended to qualify as an employee stock ownership plan (ESOP) under Section 4975(e)(7) of the Code. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974, as amended (ERISA). The Plan is administered by the Arch CEOP Administrative Committee.

On February 8, 1999, Olin Corporation (Olin) completed the spin-off of its specialty chemical businesses as Arch. Under the terms of the spin-off, Olin distributed to its holders of common stock

Notes to Financial Statements December 31, 2003 and 2002

as of the close of business on February 1, 1999 one Arch common share for every two shares of Olin common stock.

Effective as of the spin-off of Arch, the Olin Corporation Contributing Employee Ownership Plan (Olin CEOP) was converted into a multiple employer plan covering employees of Olin and its affiliated companies, and employees of Arch and its affiliated companies (collectively the Employers). The Olin CEOP was administered as a single plan.

On January 22, 2001, Arch adopted the CEOP, a single employer plan, and effective March 1, 2001, was no longer a participating employer in the Olin CEOP. As of March 1, 2001, all Arch participant balances were transferred to the CEOP.

During 2002, approximately \$17,750 was transferred into the Plan relating to the Brooks Industries 401(k) Plan, as a result of two participants who were not transferred into the Plan during the 2001 plan year.

(b) Participation and Contributions

Employees of the Employer and certain subsidiaries of the Employer are eligible to participate in the Plan on the day coinciding with their date of hire.

For 2003 and 2002, the maximum amount of tax-deferred contributions that may be made to the CEOP was \$12,000 and \$11,000, respectively. The amount of tax deferred contributions is based on IRS guidelines and is calculated based on eligible pay and the percentage of pay elected to contribute to the Plan. Additionally, participant's can make after-tax contributions. Combined contributions may not exceed 100% of participant's eligible compensation, up to statutory limits. However, contributions for highly compensated employees is limited to 15% of eligible compensation, up to statutory limits.

The Employer provides a matching contribution, which is currently 100% on the first \$25 each month and 50% on the balance up to 6% of eligible pay. Arch also provides a performance match, which is based on Arch's actual earnings per share (EPS) as a percent of the target EPS. The performance matching contribution totaled \$1,237,186 and \$1,087,010 for the years ended December 31, 2003 and 2002, respectively. All Employer matching contributions are invested in the Arch Common Stock Fund.

(c) Investment Elections

Below is a description of the investment options that are offered by the Plan:

American Century Premium Money Market Fund – The fund invests in high-quality, cash-equivalent securities including direct obligations of the U.S. government and its agencies and instrumentalities, as well as short-term bank and corporate obligations that are payable in U.S. dollars.

(Continued)

Notes to Financial Statements
December 31, 2003 and 2002

PIMCO Total Return Fund — The fund invests at least 65% of assets in debt securities, including U.S. government securities, corporate bonds, and mortgage-related securities. It may invest up to 20% of assets in securities denominated in foreign currencies.

Gabelli Westwood Equity Fund – The fund normally invests at least 65% of assets in common stocks and convertible securities of seasoned companies with historical earnings growth higher than published indices, and in smaller companies believed to have outstanding potential for capital appreciation. The fund may also invest up to 35% of assets in foreign and domestic debt securities.

Barclays Global Investors Equity Index Fund – The fund seeks to capture the earnings and growth through investing in the same stocks held in the S&P 500 Index. These stocks represent 500 of the largest and most established public companies in the U.S. (based on the market value of their shares), and account for more than 75% of the market capitalization of all publicly traded stocks in the U.S.

Putnam Growth Opportunities Fund – Class A – This fund invests primarily in very large, highly competitive American growth companies that are world leaders in their industries. Targeted companies have strong revenue and earnings growth rates and dominate both domestic and foreign markets.

Morgan Stanley Institutional Fund Trust U.S. Mid Cap Value Portfolio – The fund normally invests at least 80% of assets in equities of mid cap companies that have market capitalization of \$35 billion or less at the time of purchase. The fund may invest up to 5% of assets in foreign securities. The fund may purchase stocks that typically do not pay dividends. The fund may also invest in preferred stock and convertible securities.

Arch Common Stock - This fund is invested in shares of Common Stock of Arch.

Olin Common Stock - This fund is invested in shares of Common Stock of Olin.

American Century Brokerage Fund – The self-directed brokerage account is intended for those who wish to individually tailor their investment portfolio to investments outside those offered by the Plan.

Pre-Mixed Portfolio – Moderate – This is a blended fund that has been created specifically for this Plan and is comprised of certain fund options available under the Plan. It is designed to seek moderate returns with both growth and income-related investments.

Pre-Mixed Portfolio – Conservative – This is a blended fund that has been created specifically for the Plan and is comprised of certain fund options available under the Plan. It is designed to seek modest returns with low volatility by investing in a mix of funds emphasizing incomerelated investments.

Notes to Financial Statements December 31, 2003 and 2002

Pre-Mixed Portfolio – Aggressive – This fund is a blended fund that has been created specifically for this Plan and is comprised of certain fund options available under the Plan. It is designed to seek higher returns through primarily growth-related investments.

Managers Special Equity Fund – This fund seeks long-term capital appreciation primarily through investment in common stocks of U.S. companies. These companies have small to medium-market capitalization and are in the early stages of their corporate life cycle or are not yet well recognized, or they may be more established firms experiencing accelerated earnings growth.

American Century International Growth Fund (Inst) – This is an international equity fund that seeks capital growth over time by investing in common stocks of foreign companies considered by management to have better-than-average prospects for appreciation. The fund invests primarily in the markets of developed foreign countries, but may also invest in emerging markets.

(d) Olin Common Stock Fund

Only Participants who were Participants in the Olin CEOP at the time of the spin-off of Arch from Olin may have account balances that are invested in the Olin Common Stock Fund. Such Participants may retain existing investments in the Olin Common Stock Fund, but no new investments or transfers may be made in or to this fund. Participants may transfer any portion of their Olin Common Stock Fund balances to any of the other funds offered by the Plan. Any dividends issued on the stock held in the Olin Common Stock Fund are automatically reinvested into the Arch Common Stock Fund.

(e) Arch Common Stock Fund

As of February 8, 1999, the specialty chemical businesses of Olin were spun off into a new publicly traded company, Arch Chemicals, Inc. In order to effect the spin-off, a stock dividend was issued to Olin shareholders, including participants in the Olin CEOP, of one share of Arch common stock for each two shares of Olin common stock then outstanding. These shares were deposited in the unitized Arch Common Stock Fund in the Olin CEOP.

As of the spin-off, each Plan participant having an account balance containing Olin common stock was credited with an opening account balance in the Arch Common Stock Fund. The amount credited to each participant's initial Arch Common Stock Fund account balance was calculated by (i) dividing the value of such participant's Olin Common Stock Fund account by the total value of all participants' accounts in the Olin Common Stock Fund, and then (ii) multiplying the percentage determined under (i) above by the value of the Arch common stock the Plan trustee received as a stock dividend. The balances in all Arch employees' accounts of the Arch Common Stock Fund were transferred to the Plan on March 1, 2001.

Dividends paid to participants are invested in the Arch Common Stock Fund. All Employer match contributions made on behalf of participants are being invested in the Arch Common Stock Fund. This fund also includes voluntary contributions made by employees. Each participant is entitled to

Notes to Financial Statements December 31, 2003 and 2002

exercise voting rights attributable to the shares of his or her account and is notified by the Trustee prior to the time such rights are to be exercised.

The number of units in the Arch Common Stock Fund to be credited to a participant's account is determined by dividing the participant's contribution plus the amount of Employer matching contributions attributable to such contribution for the preceding pay cycle by the unit value of a unit as of the close of business on the date on which the contributions were credited. Additional units are credited to a participant's account to reflect payment of dividends on the common shares credited to that account based on the value of a unit as of the day the dividend is credited.

(f) Vesting and Benefit Provision

Participants are fully vested in their contributions to the Plan.

All participants become 100% vested in the Employer contributions upon the completion of two years of service or as a result of death, total disability or attainment of age 65. Nonbargaining and certain bargaining participants can become partially vested in accordance with the schedule set forth below:

Years of Service	Percentage vested
Less than one year	0%
One year but fewer than two	50%
Two or more years	100%

Upon termination of service for any reason, a participant may elect to receive his or her entire vested balance in either a lump-sum amount or in annual installments up to 15 years.

Distributions from the Plan are generally paid in cash. Distributions from the Olin Common Stock Fund or Arch Common Stock Fund, at the election of the distributee, can be paid in common stock with any fractional interest in a share of common stock paid in cash.

(g) Transfers Between Funds

Participants may elect to transfer balances attributable to employee contributions from any fund to any other fund, except such participants may not transfer balances to the Olin Common Stock Fund. Participants may transfer balances daily, with no limitation on the frequency. A participant may elect to transfer any percentage of the balance in the fund from which the transfer is made.

(h) Participant Accounts

The Plan is a defined contribution plan under which a separate individual account is established for each participant. Each participant's account is credited with the participant's contribution and allocations of (a) the Company's contribution and (b) Plan earnings. Allocations are based on participant earnings or accounts balances, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the Participant's vested balance.

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Notes to Financial Statements December 31, 2003 and 2002

(i) Loan Provision

All employees who are participants in the Plan are eligible to borrow from the Plan. Participants may borrow from the Plan an amount equal to up to one-half of their vested account balance. The minimum loan amount is \$500 and the maximum aggregate loan amount is \$50,000. Under the Plan, employees may have a maximum of five outstanding loans at any time. The loans are funded from the participants' accounts, reducing the account balance by the loan amount, and have been reflected as [participant loans] transfers between funds in the financial statements. The term of the loans may be up to five years. The interest rate on these loans is fixed at the current prime rate at the time the loan is originated. The interest rates on outstanding loans ranged from 4.00% and 10.50% in 2003 and 4.25% to 10.50% in 2002.

(j) Payment of Benefits

Upon termination of employment, death, attainment of age 59 ½, certain hardships, as defined by the Plan, participants may elect to withdraw amounts from the Plan. Participants may also elect to withdraw their tax-deferred contributions and vested contributions, as defined in the Plan document.

(k) Administrative Expenses

Costs and expenses of administering the Plan are generally paid by the Plan.

(1) Trust Fund Management

JP Morgan Chase Bank (Trustee) is the Trustee of the Plan. Under the terms of the Trust Agreement between the Trustee and Arch, the Trustee is responsible for the safekeeping of Plan assets in the trust funds and the maintenance of records relating to receipts and disbursements from the trust funds. The Trustee invests funds in compliance with the terms of the Plan and makes payments from the trust funds as directed by participants and Arch.

(m) Recordkeeper

JP Morgan Retirement Plan Services (formerly, JP Morgan/American Century Retirement Plan Services) is the Recordkeeper for the Plan.

(n) Plan Termination

Although it has not expressed any intent to do so, the Employer has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of Plan termination, participants will become 100% vested in their Employer contributions.

(3) Forfeitures of Employer Contributions

Any forfeitures of Employer contributions, equivalent to the market value of forfeited shares plus dividends not reinvested, will be applied to reduce subsequent Employer contributions. Forfeitures used to reduce employer contributions were \$0 and \$41,030 for the Plan years ended December 31, 2003 and 2002, respectively. The ending balance of forfeitures at December 31, 2003 and 2002 amounted to \$11,874 and \$0, respectively.

(Continued)

Notes to Financial Statements December 31, 2003 and 2002

(4) Investments

The Plan's investments, which exceeded 5% of net assets available for Plan benefits as of December 31, 2003 and 2002, are as follows:

Description of investment	2003	2002
Arch Chemicals Common Stock*	40,185,548	26,704,633
Barclays Global Investors Fund	20,605,473	15,421,637
PIMCO Total Return Fund	17,567,047	15,925,985
American Century Premium Money Market Fund	14,503,225	14,002,923
Olin Corporation Common Stock*	13,783,822	12,164,677
Managers Special Equity Fund	9,413,206	
Putnam Growth Opportunities Fund	8,470,149	7,173,721

^{*} Includes non-participant-directed

The following table presents net investment appreciation (depreciation) for the plan years ended December 31, 2003 and 2002, respectively:

Net appreciation (depreciation)	 2003	2002
Mutual Funds	\$ 8,699,103	(8,315,343)
Common/Collective Trust	4,471,765	(4,234,853)
Common Stock	14,913,646	(7,183,984)
Other	 363,908	(471,630)
Total net appreciation (depreciation)	\$ 28,448,422	(20,205,810)

Notes to Financial Statements December 31, 2003 and 2002

(5) Non-participant-directed Investments

Information about the net assets and the significant components of the changes in net assets for investment options, which include non-participant-directed investments are as follows:

	,	December 31, 2003	December 31, 2002
Arch Common Stock Fund Net Assets at beginning of year	\$	26,704,633	32,594,792
Changes in net assets to the Arch Common Stock Fund:			
Interfund transfers			9,556,140
Employer contributions		3,746,785	2,859,605
Employee contributions – directed investments		708,029	656,707
Dividends		1,776,628	1,716,040
Net appreciation (depreciation)		11,575,809	(6,888,936)
Loan repayments (principal and interest)		380,477	376,133
Benefits paid to participants		(2,015,438)	(2,010,889)
Administrative expense		(1,898)	(1,458)
Loans issued		(305,344)	(260,696)
Other receipts (disbursements)		20,424	(45,356)
Securities sold and not settled			(10,582)
Transfers to participants - directed investments		(2,404,557)	(11,836,867)
Net increase (decrease)		13,480,915	(5,890,159)
Arch Common Stock Fund Net Assets at end of year	\$	40,185,548	26,704,633

(6) Federal Income Taxes

The Internal Revenue Service has determined and informed the Plan Sponsor by a letter dated September 5, 2003, that the Plan is qualified under Section 401(a) of the Code, as amended, and the related trust is exempt from Federal income taxes under Section 501(a) of the Code.

(7) Related Party Transactions

Certain Plan investments are shares of mutual funds managed by JP Morgan Chase Bank, the Plan trustee. In addition, the Plan invests in common stock of Arch. These transactions qualify as party-in-interest transactions that are exempt from the prohibited transaction rules.

(8) Subsequent Event

Effective January 1, 2004, the Plan was amended, whereas, the Employer match contributions would equal 50% of the amount contributed up to 6% of the participant's eligible regular monthly pay, not to exceed 3% of the participant's eligible annual pay.

Schedule H, Line 4i – Schedule of Assets (Held at End of Year)

December 31, 2003

	Identity of issuer, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, par, or maturity value	 Current value
*	American Century	Premium Money Market Fund	\$ 14,503,225
	PIMCO	Total Return Fund	17,567,047
	Gabelli	Westwood Equity Fund	6,122,975
	Barclays	Global Investors Fund	20,605,473
	Putnam	Growth Opportunities Fund	8,470,149
	Morgan Stanley	Institutional Fund Trust Mid Cap Value Portfolio	7,144,815
	Managers Funds	Special Equity Fund	9,413,206
*	American Century	International Growth Fund	6,775,704
*	American Century	Brokerage Account	1,246,047
	Olin Corporation	Olin Corporation Common Stock, Par value \$1.00	13,783,822
*	Arch Chemicals, Inc.	Arch Chemicals, Inc. Common Stock, Par value \$1.00	40,185,548
*	Various	Participant Loan Fund (interest ranging from 4.00% - 10.50%)	3,956,974
	Total investments		\$ 149,774,985

^{*}Party-in-interest to the Plan

See accompanying report of independent registered public accounting firm.

Schedule H, Line 4j - Schedule of Reportable Transactions

Year ended December 31, 2003

Identity of party involved	اء	Description of asset	İ	Purchase price	Selling price	Cost of asset	Current value of asset on transaction date	Net gain or (loss)
Series of Transactions * Arch Chemicals, Inc.	*	Arch Chemicals, Inc Common stock par value \$1.00	6	4,919,027		4,919,027	4,919,027	1
* Arch Chemicals, Inc.	*	Arch Chemicals, Inc Common stock par value \$1.00	↔	1	3,266,915	3,281,367	3,266,915	(14,452)
* Party-in-interest to the Plan								

See accompanying report of independent registered public accounting firm.

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SIGNATURES

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: June 25, 2004

ARCH CHEMICALS, INC. CONTRIBUTING EMPLOYEE OWNERSHIP PLAN

By: Members of the Arch CEOP Administrative Committee

H. Anderson

L.S. Mercede

R.A. Barnes

EXHIBIT INDEX

Exhibit No.	<u>Description</u>	. 0
23	Consent of Auditors	18

Exhibit 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors Arch Chemicals, Inc.:

We consent to the incorporation by reference in the Registration Statement (No. 333-54098) on Form S-8 of the Arch Chemicals, Inc. Contributing Employee Ownership Plan of our report dated June 15, 2004, relating to the statements of net assets available for plan benefits of the Arch Chemicals, Inc. Contributing Employee Ownership Plan as of December 31, 2003 and 2002, and the related statements of changes in net assets available for plan benefits for the years then ended and related schedules, which report appears in the December 31, 2003 annual report on Form 11-K relating to the Arch Chemicals, Inc. Contributing Employee Ownership Plan for the fiscal year ending December 31, 2003.

KPMG LLP

Stamford, Connecticut June 25, 2004