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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 11-K

FOR ANNUAL REPORTS OF EMPLOYEE STOCK PURCHASE, SAVINGS  
AND SIMILAR PLANS 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

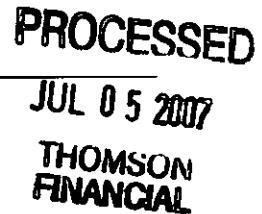
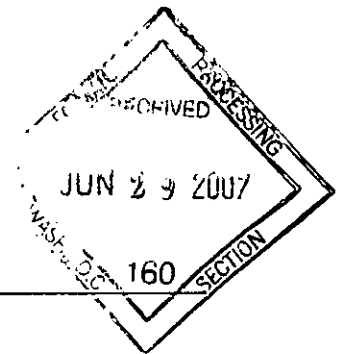
For the fiscal year ended December 31, 2006

OR

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

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

Commission file number 1-14601



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

Exhibit Index is p. 20  
Total Pages = 21

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REQUIRED INFORMATION

**ARCH CHEMICALS INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN**

Financial Statements and Supplemental Schedules

December 31, 2006 and 2005

(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 Participants and 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 (the Plan) as of December 31, 2006 and 2005, 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 plan financial statements referred to above present fairly, in all material respects, the net assets available for plan benefits of the Plan as of December 31, 2006 and 2005, and the changes in net assets available for plan benefits for the years then ended in conformity with U.S. generally accepted accounting principles.

Our audits were performed for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule H, Line 4i – Schedule of Assets (Held at End of Year) and Schedule H, Line 4j – 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 1974. These supplemental schedules are the responsibility of the Plan's management. The supplemental schedules have been subjected to the auditing procedures applied in 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.

As discussed in note 1, the Plan adopted Financial Accounting Standards Board Staff Position AAG INV-1 and SOP 94-4-1, *Reporting of Fully Benefit-Responsive Investment Contracts Held by Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans*, as of January 1, 2006.

**KPMG LLP**

Stamford, Connecticut

June 27, 2007

**ARCH CHEMICALS INC. CONTRIBUTING  
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Statements of Net Assets Available for Plan Benefits

December 31, 2006 and 2005

	<u>2006</u>	<u>2005</u>
Assets:		
Investments, at fair value (note 4):		
Mutual funds	\$ 79,264,175	67,852,142
Common/collective trusts	45,935,542	25,928,684
Common stock	55,459,857	55,746,062
Money market fund	—	16,142,984
Participant-directed brokerage account	3,038,059	2,601,139
Participant loans	<u>3,994,441</u>	<u>3,913,144</u>
Total investments	187,692,074	172,184,155
Employer contribution receivable	<u>1,024,418</u>	<u>1,208,979</u>
Net assets available for plan benefits at fair value	188,716,492	173,393,134
Adjustment from fair value to contract value for fully benefit-responsive investment contracts (note 1)	<u>218,663</u>	<u>—</u>
Net assets available for plan benefits	<u>\$ 188,935,155</u>	<u>173,393,134</u>

See accompanying notes to financial statements.

**ARCH CHEMICALS INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN**

Statements of Changes in Net Assets Available for Plan Benefits

Years ended December 31, 2006 and 2005

	2006	2005
Additions to net assets attributed to:		
Investment income (note 4)		
Net appreciation in fair value of investments	\$ 13,302,201	4,489,533
Dividends	5,807,849	3,300,545
Interest	60,149	422,076
Interest from participant loans	231,505	189,281
Net investment income	19,401,704	8,401,435
Contributions:		
Participant	7,215,157	7,415,102
Employer	3,155,132	3,405,429
Total contributions	10,370,289	10,820,531
Total additions	29,771,993	19,221,966
Deductions from net assets attributed to:		
Administrative expenses	109,305	102,118
Benefits paid to participants in cash and stock	13,335,994	10,393,716
Transfers out to other Plan (note 2)	784,673	8,052,820
Total deductions	14,229,972	18,548,654
Net increase	15,542,021	673,312
Net assets available at beginning of year	173,393,134	172,719,822
Net assets available at end of year	\$ 188,935,155	173,393,134

See accompanying notes to financial statements.

**ARCH CHEMICALS, INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN**

Notes to Financial Statements

December 31, 2006 and 2005

**(1) Summary of Significant Accounting Policies**

**(a) Basis of Presentation**

The accompanying financial statements have been prepared on the accrual basis.

**(b) Use of Estimates**

The preparation of financial statements in conformity with U.S. generally accepted accounting principles 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. Quoted market prices are used to determine the fair value of investments, with the exception of the Barclays Global Investors Equity Index Fund and the JP Morgan Stable Asset Income Fund, which are valued by the issuing investment manager.

The investment contracts held by the JP Morgan Stable Asset Income Fund are presented at fair value on the statement of net assets available for benefits. The investments in the fully benefit-responsive investment contracts are then adjusted to contract value, which is equal to principal balance plus accrued interest. An investment contract is generally valued at contract value, rather than fair value, to the extent it is fully benefit-responsive. The fair value of fully benefit-responsive investment contracts is calculated using a discounted cash flow model which considers recent fee bids as determined by recognized dealers, discount rate and the duration of the underlying portfolio securities.

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) Benefit Payments**

Benefit payments are recorded when paid.

**(e) New Accounting Pronouncements**

As of January 1, 2006, the Plan adopted Financial Accounting Standards Board (FASB) Staff Position FSP AAG INV-1 and Statement of Position No. 94-4-1, *Reporting of Fully Benefit-Responsive Investment Contracts Held by Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans* (the FSP). The FSP requires the Statement of Net Assets Available for Plan Benefits present the fair value of the Plan's investments as well as the adjustment from fair value to contract value for the fully benefit-responsive investment contracts. The Statement of Changes in Net Assets Available for Plan Benefits is prepared on a contract value basis for the fully benefit-responsive investment contracts. The Plan had no fully-benefit responsive investment contracts as of December 31, 2005.

In September 2006, the FASB issued Statement on Financial Accounting Standards No. 157 (SFAS 157), *Fair Value Measurements*. SFAS 157 establishes a single authoritative definition of fair

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December 31, 2006 and 2005

value, sets out a framework for measuring fair value and requires additional disclosures about fair value measurement. SFAS 157 is effective for financial statement issued for fiscal years beginning after November 15, 2007. The Company does not believe the adoption of SFAS 157 will have a material impact on the Plan financial statements.

**(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 Prospectus/Summary Plan Description 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 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.

On November 30, 2004, Arch completed the sale of the Microelectronics Business to Fuji Photo Film. During 2006 and 2005, \$784,673 and \$8,052,820 was transferred from the Plan relating to the participants who elected to transfer their accounts to Fuji Photo Film, respectively.

**(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 2006 and 2005, the maximum amount of tax-deferred contributions that could have been made to the CEOP was \$15,000 and \$14,000, 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, participants can make after-tax contributions. Combined contributions may not exceed 100% of participants' eligible compensation, up to statutory limits.

**ARCH CHEMICALS, INC. CONTRIBUTING  
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However, contributions for highly compensated employees, as defined, is limited to 15% of eligible compensation, up to statutory limits.

Participants who are age 50 and older at any time during a Plan year may make “catch-up contributions” in that year. These contributions are additional tax-deferred contributions that eligible participants are permitted to make in excess of the annual IRS tax-deferred contribution limit. For 2006 and 2005, the maximum amount of “catch-up contributions” that could have been made to the CEOP was \$5,000 and \$4,000, respectively.

The Employer provides a matching contribution, which is currently 50% of participants’ contributions (excluding “catch-up contributions,” if any), up to 6% of eligible pay. Arch also provides an annual performance match, which is based on Arch’s actual earnings per share (EPS) as a percent of the target EPS as established by the Compensation Committee. The performance matching contribution totaled \$1,024,418 and \$1,208,979 for the years ended December 31, 2006 and 2005, respectively. All Employer matching contributions are invested in the Arch Common Stock Fund.

**(c) Investment Elections**

During 2006 and 2005, the amounts contributed to the Plan were invested in one or more of the following investment options at the direction of the participants. Below is a description of each investment option offered by the Plan:

*JPMorgan Stable Asset Income Fund* – This fund seeks to preserve the value of money invested, perform better than the average money market fund, and earn consistent reliable returns. The fund invests in a variety of high quality interest-paying securities offered with a companion investment contract called a “benefit responsive wrap.”

*PIMCO Total Return Fund* – This fund seeks total return consistent with preservation of capital. 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. The portfolio duration generally ranges from three to six years.

*PIMCO Real Return Fund* – The fund seeks maximum real return, consistent with preservation of real capital and prudent investment management. The fund seeks its investment objective by investing under normal circumstances at least 80% of its net assets in inflation-indexed bonds of varying maturities issued by the U.S. and non-U.S. governments, their agencies or instrumentalities, and corporations.

*Barclays Global Investors S&P 500 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.

*T. Rowe Price Equity Income Fund* – This fund’s objective is to provide substantial dividend income as well as long-term capital appreciation through investments in common stocks of





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established companies. The fund pursues this objective by investing at least 80% of the funds net assets in common stocks, with 65% in the common stocks of well-established companies paying above-average dividends, with favorable prospects for both increasing dividends and capital appreciation.

*American Funds Growth Fund of America* – This fund seeks to invest in companies that appear to offer superior opportunities for long-term growth, such as cyclical companies, those in depressed industries, and turnaround or value situations. Common stocks, convertibles, preferred stocks, U.S. government securities, bonds and cash are held by the fund. Up to 15% of the assets may be invested in securities of issuers located outside the United States and not included in the S&P 500. Up to 10% may be invested in debt securities rated below investment grade.

*Janus Mid Cap Value Fund* – This fund seeks capital appreciation. In pursuing that goal the fund invests at least 80% of its assets. The fund focuses on companies that have fallen out of favor with the market or are temporarily misunderstood by the investment community. These companies generally have a low price relative to their assets, earnings, cash flow or business franchise; have products and services that give them a competitive advantage; quality balance sheets and strong management.

*Turner Midcap Growth Fund* – The fund seeks capital appreciation. The fund invests primarily (at least 80% of its net assets) in common stocks of equity securities of U.S. companies with medium market capitalizations that the fund believes has strong earnings growth potential.

*Managers Special Equity Fund* – This fund seeks long-term capital appreciation by investing primarily in common stocks of U.S. companies. These companies have small to medium-market capitalizations 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.

*Target Small Capitalization Value Fund* – The fund seeks above-average capital appreciation. To achieve the objective, the fund invests in stocks of small companies that are believed to be undervalued and have an above-average potential to increase in price, given the company's sales, earnings, book value, cash flow and recent performance. The fund normally invests at least 80% of the portfolio's investable assets in common stocks of companies with a total market capitalization of less than \$2.5 billion (measured at the time of purchase).

*Harbor International Fund* – This fund seeks long-term total return, principally from growth of capital. The fund invests primarily in equity securities, principally common and preferred stocks of foreign companies, including those located in emerging market countries. Companies in the fund's portfolio generally have market capitalizations in excess of \$1 billion. In selecting stocks for the fund's portfolio, the subadviser looks for companies with the following characteristics: businesses that the subadviser believes offer value, low price/earnings multiples relative to other stocks in each country/industry and above average, long-term earnings expectation not reflected in the price.

*American Funds EuroPacific Growth Fund* – This fund seeks long-term growth of capital by investing in growing companies based in Europe and the Pacific Basin. Generally, the fund

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will invest at least 80% of assets in equity securities of issuers located in these areas. The fund may hold cash money market instruments and other fixed income securities.

*Arch Common Stock Fund* – This fund invests in the publicly traded common stock of Arch Chemicals, Inc. (the Plan Sponsor). See footnote 2(e) for further description of the provisions and restrictions of the fund.

*Arch Pre-mixed Portfolio (Conservative)* – This investment option is a pre-mixed portfolio created specifically for the Arch Contributing Employee Ownership Plan, using the plan's other available investment options. It is designed to seek a balance of modest returns and low volatility by investing in a diversified mix of funds emphasizing income-related investments. The plan's fixed income options make up the largest portion of the portfolio (60%) but it also is invested in stock funds (40%) to provide the potential for growth as well as increased diversification.

*Arch Pre-mixed Portfolio (Moderate)* – This investment option is a pre-mixed portfolio created specifically for the Arch Contributing Employee Ownership Plan, using the plan's other available investment options. It is designed to seek moderate returns by investing in a diversified mix of funds emphasizing both growth and income-related investments. Stock funds make up 65% of the portfolio, emphasizing growth-related investments. The stock holdings are broadly diversified across large U.S. companies, international companies and small U.S. companies. The portfolio also invests in fixed income options (35%) to provide diversification and reduce volatility while adding stability of principal and income.

*Arch Pre-mixed Portfolio (Aggressive)* – This investment option is a pre-mixed portfolio created specifically for the Arch Contributing Employee Ownership Plan, using the plan's other available investment options. It is designed to seek higher potential returns by investing in a diversified mix of funds emphasizing growth-related investments. Stock funds make up 100% of the portfolio, and are broadly diversified across large U.S. companies, international companies and small U.S. companies.

**(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.

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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 re-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 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) JP Morgan Stable Asset Income Fund***

The JP Morgan Stable Asset Income Fund is a stable value fund that is a common collective trust fund. The fund may invest in fixed interest insurance investment contracts, money market funds, corporate and government bonds, mortgage-backed securities, bond funds, and other fixed income securities. The contracts held by the fund are considered to be fully benefit-responsive investment contracts as defined in FSP AAG INV-1 and SOP 94-4-1. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value. Contract value represents contributions made to the fund, plus accrued interest, less participant withdrawals.

***(g) Vesting and Benefit Provision***

Participants are fully vested in their contributions to the Plan.

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:

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

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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 or his or her life expectancy, if greater.

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 shares of common stock with any fractional interest in a share of common stock paid in cash.

***(h) 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.

Participants who are at least 50 years old may elect to transfer balances attributable to Employer contributions out of the Arch Common Stock Fund once every 12 months.

***(i) 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 Employer's contribution and (b) Plan Investment Fund(s) 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.

***(j) 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 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 are reflected as participant loans in the accompanying financial statements. The term of the loans may be up to five years, or up to 15 years if the purpose of the loan is the purchase of a primary residence. 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% to 9.75% in 2006 and 2005.

***(k) Payment of Benefits***

Upon termination of employment, death, attainment of age 59½, and 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 an in-service withdrawal, as defined in the Plan document.

***(l) Administrative Expenses***

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

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***(m) Trust Fund Management***

JPMorgan Chase Bank, N.A. 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.

***(n) Recordkeeper***

JPMorgan Retirement Plan Services, LLC (formerly, JPMorgan/American Century Retirement Plan Services) is the Recordkeeper for the Plan. There are revenue sharing agreements between certain funds and JPMorgan Chase Bank, N.A.

***(o) 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 nonvested 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 \$2,359 and \$6,843 for the Plan years ended December 31, 2006 and 2005, respectively. The unallocated balance of forfeitures at both December 31, 2006 and 2005 amounted to \$0.

**ARCH CHEMICALS, INC. CONTRIBUTING  
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Notes to Financial Statements

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**(4) Investments**

The Plan's investments that exceeded 5% of net assets available for plan benefits as of December 31, 2006 and 2005 are as follows:

Description of investment	2006	2005
Arch Chemicals Common Stock Fund*	\$ 48,310,042	45,712,226
Barclays Global Investors Fund	27,154,143	25,928,684
PIMCO Total Return Fund	16,952,233	20,454,535
American Century Premium Money Market Fund	**	16,142,984
Olin Corporation Common Stock Fund	**	10,033,836
Managers Special Equity Fund	10,356,117	11,177,982
Morgan Stanley Institutional Mid Cap Value Fund	**	10,021,351
American Century International Growth Fund	**	9,143,864
American Funds Growth Fund of America	10,642,094	**
American Funds EuroPacific Growth Fund	10,290,376	**
JP Morgan Stable Asset Income Fund	18,781,399	**
Janus Mid Cap Value Fund	10,200,388	**
T. Rowe Price Equity Income Fund	10,009,841	**

\* Includes nonparticipant-directed

\*\* Investment did not exceed 5% of net assets at year end

The following table presents the net appreciation in fair value of investments (including investments bought, sold and held during the year) for the plan years ended December 31, 2006 and 2005, respectively:

Net appreciation	2006	2005
Mutual funds	\$ 3,353,330	2,750,317
Common/Collective trusts	5,667,557	1,163,110
Common stock	4,014,742	561,233
Participant-directed brokerage account	266,572	14,873
Total net appreciation	<u>\$ 13,302,201</u>	<u>4,489,533</u>

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**(5) Nonparticipant-Directed Investments**

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

	<u>December 31, 2006</u>	<u>December 31, 2005</u>
Arch Common Stock Fund net assets at beginning of year	\$ 45,712,226	44,366,871
Changes in net assets to the Arch Common Stock Fund:		
Employer contributions	3,339,644	3,405,429
Employee contributions—directed investments and net transfers in from other plans	568,286	632,373
Dividends	1,465,446	1,601,438
Net appreciation	5,450,808	1,826,592
Loan repayments (principal and interest)	374,694	381,589
Benefits paid to participants and net transfers out	(3,103,840)	(3,755,827)
Administrative expenses	(2,675)	(2,385)
Loans issued	(264,173)	(322,453)
Other disbursements	(269)	(79,845)
Transfers to participant-directed investments	<u>(5,230,105)</u>	<u>(2,341,556)</u>
Net increase	<u>2,597,816</u>	<u>1,345,355</u>
Arch Common Stock Fund net assets at end of year	<u>\$ 48,310,042</u>	<u>45,712,226</u>

**(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. Although the Plan has been amended since receiving the determination letter, the Plan administrator and the Plan's tax counsel believe that the Plan is designed and is currently being operated in compliance with the applicable requirements of the IRC.

**(7) Related Party Transactions**

Certain Plan investments are shares of mutual funds and common/collective trusts managed by JPMorgan Chase Bank, N.A., 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.

**ARCH CHEMICALS, INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN**

Notes to Financial Statements

December 31, 2006 and 2005

**(8) Reconciliation to Form 5500**

	<u>December 31, 2006</u>
Net assets available for plan benefits per the financial statements	\$ 188,935,155
Less adjustment from fair value to contract value for fully benefit-responsive investment contracts	<u>(218,663)</u>
Net assets available for plan benefits per the Form 5500	<u>\$ 188,716,492</u>
	 <u>December 31, 2006</u>
Change in net assets available for plan benefits per the financial statements	\$ 15,542,021
Less adjustment from fair value to contract value for fully benefit-responsive investment contracts	<u>(218,663)</u>
Net income per the Form 5500	<u>\$ 15,323,358</u>



**ARCH CHEMICALS INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN**

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

December 31, 2006

Identity of issuer, borrower, lessor, or similar party	Description of investment including maturity date, number of shares or units, rate of interest, collateral, par, or maturity value	Historical cost	Current value
PIMCO	Total Return Fund	**	\$ 16,952,233
PIMCO	Real Return Fund	**	2,632,258
Managers Funds	Special Equity Fund	**	10,356,117
T. Rowe Price	Equity Income Fund	**	10,009,841
Janus	Mid Cap Value Fund	**	10,200,388
Turner	Mid Cap Growth Fund	**	1,760,739
Target	Small Capitalization Value Fund	**	2,134,690
Harbor	International Fund	**	4,285,439
American Funds	Growth Fund of America	**	10,642,094
American Funds	EuroPacific Growth Fund	**	10,290,376
Barclays	Global Investors Fund	**	27,154,143
* JP Morgan	Stable Asset Income Fund	**	18,781,399
* Arch Chemicals, Inc.	Arch Chemicals, Inc. Common Stock, Par value \$1.00	33,705,817	48,310,042
Olin Corporation	Olin Corporation Common Stock, Par value \$1.00	**	7,149,815
Participant-directed brokerage account	Various investments	**	3,038,059
* Participant loans	Participant Loan Fund (911 outstanding loans with interest rates ranging from 4.00% - 9.75%, and maturity dates ranging from 2007 to 2020)	**	3,994,441
Total investments			<u>\$ 187,692,074</u>

\* Party-in-interest to the Plan.

\*\* Historical cost omitted as these investments are participant-directed

See accompanying Report of Independent Registered Public Accounting Firm.

ARCH CHEMICALS INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN

Schedule H, Line 4j – Schedule of Reportable Transactions  
Year ended December 31, 2006

Identity of party involved	Description of asset	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	\$ 2,940,634	—	2,940,634	2,940,634	—
* Arch Chemicals, Inc.	* Arch Chemicals, Inc. Common stock par value \$1.00	—	14,480,745	14,268,877	14,480,745	211,868
* Arch Chemicals, Inc.	* Arch Chemicals, Inc. Common stock par value \$1.00	13,205,562	—	13,205,562	13,205,562	—
* Arch Chemicals, Inc.	* Arch Chemicals, Inc. Common stock par value \$1.00	—	4,662,490	3,849,983	4,662,490	812,507
* Party-in-interest to the Plan.						

See accompanying Report of Independent Registered Public Accounting Firm.

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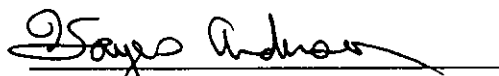
SIGNATURES


*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.

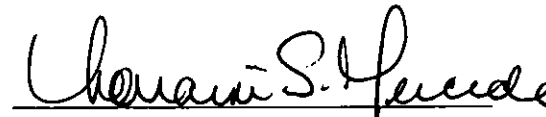
Date: June 28, 2007

ARCH CHEMICALS, INC. CONTRIBUTING  
EMPLOYEE OWNERSHIP PLAN

By: Members of the Arch CEOP  
Administrative Committee

  
H. Anderson

  
W.P. Bush

  
L.S. Mercede


  
R.A. Barnes

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>	
23	Consent of Independent Registered Public Accounting Firm	21

**Consent of Independent Registered Public Accounting Firm**

The Board of Directors  
Arch Chemicals, Inc.:

We consent to the incorporation by reference in the Registration Statements (333-133815 and 333-54098) on Form S-8 of the Arch Chemicals, Inc. Contributing Employee Ownership Plan of our report dated June 27, 2007, relating to the statements of net assets available for plan benefits as of December 31, 2006 and 2005, 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, 2006 annual report on Form 11-K relating to the Arch Chemicals, Inc. Contributing Employee Ownership Plan.

Our report refers to a change in the method of accounting for fully benefit-responsive investment contracts in 2006.

**KPMG LLP**

Stamford, Connecticut  
June 27, 2007

**END**