
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
]

For the transition period from _____ to _____

Commission file number 1-16091.

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

POLYONE RETIREMENT SAVINGS PLAN (formerly the M. A. Hanna Company 401(k) and Retirement Plan)

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

**POLYONE CORPORATION
33587 WALKER ROAD
AVON LAKE, OHIO 44012**

REQUIRED INFORMATION

The following financial statements and supplemental schedules for the PolyOne Retirement Savings Plan, prepared in accordance with the financial reporting requirements of ERISA, are being filed herewith:

Audited Financial Statements and Supplemental Schedule, December 31, 2003 and 2002 and Year ended December 31, 2003 with
Report of Independent Registered Public Accounting Firm

**Page No.
(in this
Report)**

1

The following exhibits are being filed herewith:

23.1 Consent of Ernst & Young LLP

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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 sign on its behalf by the undersigned hereunto duly authorized.

Date: June 28, 2004

POLYONE RETIREMENT SAVINGS PLAN

By: PolyOne Corporation Committee for Employee
Benefits Administration

By: /s/ Michael J. Meier

Michael J. Meier
Corporate Controller
PolyOne Corporation

Audited Financial Statements and
Supplemental Schedule
PolyOne Retirement Savings Plan (formerly the M.A. Hanna Company 401(k)
and Retirement Plan)
December 31, 2003 and 2002 and Year ended December 31, 2003
with Report of Independent Registered Public Accounting Firm

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Audited Financial Statements and Supplemental Schedule

December 31, 2003 and 2002 and
Year ended December 31, 2003

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Report of Independent Registered Public Accounting Firm

PolyOne Corporation
Retirement Plan Committee

We have audited the accompanying statements of net assets available for benefits of the PolyOne Retirement Savings Plan (formerly the M.A. Hanna Company 401(k) and Retirement Plan) as of December 31, 2003 and 2002, and the related statement of changes in net assets available for benefits for the year ended December 31, 2003. 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 benefits of the PolyOne Retirement Savings Plan (formerly the M.A. Hanna Company 401(k) and Retirement Plan) at December 31, 2003 and 2002, and the changes in its net assets available for benefits for the year ended December 31, 2003, in conformity with U.S. generally accepted accounting principles.

Our audits were performed for the purpose of forming an opinion on the financial statements taken as a whole. The accompanying supplemental schedule of assets (held at end of year) as of December 31, 2003 is presented for purposes of additional analysis and is not a required part of the financial statements but is 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. This supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in our audits of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

/s/ Ernst & Young LLP

June 15, 2004

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Statements of Net Assets Available for Benefits

	2003	December 31	2002
Assets			
Investments, at fair value	\$314,015,651		\$130,022,976
Receivables:			
Participant contributions	30,469		—
Employer contributions	32,378		4,180,270
From merger of Synergistics Industries (NJ) 401(k) Savings Plan	1,498,205		—
Net pending sales	—		30,665
Total receivables	1,561,052		4,210,935
Net assets available for benefits	\$315,576,703		\$134,233,911

See accompanying notes.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Statement of Changes in Net Assets Available for Benefits

Year ended December 31, 2003

Additions	
Investment income:	
Dividends	\$ 2,073,521
Interest	1,415,098
Net appreciation in fair value of investments	28,892,150
	<u>32,380,769</u>
Transfers from:	
PolyOne Retirement Savings Plan—A	125,732,978
M.A. Hanna Company Capital Accumulation Plan	7,205,172
O’Sullivan Corporation Retirement Savings Plan	23,061,618
Synergistics Industries (NJ) Employees 401(k) Savings Plan	1,498,205
	<u>157,497,973</u>
Contributions:	
Participant	7,235,797
Employer	7,657,861
Rollovers	158,652
Other	117,798
	<u>15,170,108</u>
Total additions	<u>205,048,850</u>
Deductions	
Benefits paid directly to participants	23,603,908
Administrative expenses	102,150
Total deductions	<u>23,706,058</u>
Net increase	181,342,792
Net assets available for benefits:	
Beginning of year	134,233,911
End of year	<u>\$315,576,703</u>

See accompanying notes.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements

December 31, 2003 and 2002 and
Year ended December 31, 2003

1. Summary Description of the Plan

The following summary description of the PolyOne Retirement Savings Plan (the Plan), formerly known as the M.A. Hanna Company 401(k) and Retirement Plan, is provided for general information purposes only. Participants should refer to the plan document for a more complete description of the Plan's provisions. The Plan is administered by the PolyOne Corporation Retirement Plan Committee.

General

The Plan is sponsored by PolyOne Corporation (the Company and Plan Sponsor). The Company was formed by the consolidation of The Geon Company and M.A. Hanna Company on August 31, 2000.

The Plan is an amendment and restatement of the M.A. Hanna Company 401(k) and Retirement Plan (the Hanna 401(k) Plan) and a continuation of the M.A. Hanna Capital Accumulation Plan (the Hanna CAP) and the O'Sullivan Corporation Retirement Savings Plan (the O'Sullivan 401(k) Plan). Effective June 1, 2003, as approved by the Compensation and Governance Committee on January 27, 2003, the Hanna CAP and the O'Sullivan 401(k) Plan were merged with and into the Hanna 401(k) Plan and the Hanna 401(k) Plan was amended, restated and renamed the PolyOne Retirement Savings Plan.

Effective January 1, 2004, as approved by the Compensation and Governance Committee on November 5, 2003, the Synergistics Industries (NJ) 401(k) Savings Plan (the Synergistics 401(k) Plan) was merged with and into the Plan. As a result of the merger, New York Life Investment Management LLC replaced Charles Schwab Trust Company as trustee. On December 31, 2003, Charles Schwab Trust Company sold and transferred all of the assets of the Synergistics 401(k) Plan to New York Life Investment Management LLC. These assets were received by the Plan's trust on January 2, 2004. A receivable from the Synergistics 401(k) Plan was recorded by the Plan at December 31, 2003 to reflect the transfer of assets to be received from the prior trustee.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

1. Summary Description of the Plan (continued)

Also effective January 1, 2004, as approved by the Compensation and Governance Committee on January 27, 2003, the PolyOne Retirement Savings Plan—A (formerly the Geon Retirement Savings Plan) was merged with and into the Plan. On December 31, 2003, all of the assets from the PolyOne Retirement Savings Plan—A (formerly the Geon Retirement Savings Plan), with the exception of the Brokerage Account, were received by the Plan's trust. The Brokerage Account assets were received on January 6, 2004.

The Plan is a defined contribution plan that covers all employees of the Company, other than leased employees, non-resident aliens, other employees regularly employed outside of the United States, persons classified by the Company as anything other than employees (even if that classification is later changed), employees covered under the PolyOne Retirement Savings Plan—A, and employees covered by a collective bargaining agreement (unless the terms of the bargaining agreement otherwise provides). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

Contributions

Each employee who elects to become a participant in the Plan authorizes a bi-weekly payroll deduction from 1% to 15% of eligible earnings. The Retirement Plan Committee has the authority at its discretion to reduce the employees' bi-weekly contribution percentage in order to maintain the tax-qualified status of the Plan. Effective January 1, 2004, participants may elect to contribute 1% to 50% of eligible earnings.

The Plan offers participants the choice of two savings options: an after-tax savings option and a pre-tax savings option. Participants may elect to participate in either or both of the savings options. Under both savings options, participants may direct that contributions be invested in any eligible funds offered by the Plan. Participants may change their investment options daily.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

1. Summary Description of the Plan (continued)

Prior to June 2003, the Plan provided for a Company matching contribution equal to 50% for each \$1 contributed on the first 6% of eligible employee compensation; the Hanna CAP provided for 100% of after-tax Company matching contributions up to 7.5% of annual compensation; with one half of the employer match directed to the PolyOne Stock Fund. In addition, the O'Sullivan 401(k) Plan provided for a 100% Company matching contribution on the first 2% of eligible employee compensation. Effective June 1, 2003, the Company's matching contributions are 100% of the first 3%, and 50% of the next 3% based on a Participant's aggregate After-Tax and Pre-Tax Contributions with respect to a payroll period, up to a maximum of 6% of the Participant's eligible earnings for the period. For each payroll period, the Company intends to make an additional retirement contribution for each participant equal to 2% of eligible earnings. Both the employer matching contributions and 2% retirement contributions follow the participant's investment elections. Effective January 1, 2004 the Company matching contribution was changed to 50% of the first 3% and 25% of the next 3% of the participant's eligible compensation. In addition, effective January 1, 2004, the Company will make additional contributions to certain eligible participants, as defined, equal to 1% to 4% of eligible compensation.

The Plan provides for the acceptance of rollover contributions from other plans qualified under the Internal Revenue Code (the Code). Rollover contributions can be made only in cash to the Plan's tax-deferred savings option.

Vesting

Participant contributions and Company matching and discretionary contributions are fully vested immediately. Company retirement contributions are vested after three years of service.

Participant Loans

Participants may borrow a maximum amount equal to the lesser of 50% of their vested account balance (excluding amounts relating to discretionary profit sharing contributions) or \$50,000, subject to certain Department of Labor and Internal Revenue Service requirements. The Plan provides that loan amounts must be a minimum of \$1,000. Interest is charged to the borrower at the trustee's prime rate plus 1%. Payments on loans are made through payroll deductions and must be repaid within five years (personal loans) or five to fifteen years (primary residence loans).

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

1. Summary Description of the Plan (continued)

Plan Withdrawals and Distributions

Active participants may make hardship withdrawals from their salary deferral and rollover account. Age-based in-service withdrawals are available from the participant's vested account balance.

Plan distributions are made to participants or their designated beneficiary upon normal retirement, disability or death, in the full amounts credited to their participant account. A participant who leaves employment of the Company before normal retirement for reasons other than disability, death or a reduction in workforce is eligible to receive all amounts credited to their account relating to participant contributions, including rollovers, and the vested portion of Company matching and discretionary profit sharing contributions. Distributions are made in either a single lump sum or periodic payments. Additionally, employees of select merged plans may elect a portion in a lump sum with the remainder paid in periodic payments, a single life annuity for single participants, or a joint and 50% or 100% survivor annuity with the participant's spouse as the joint annuitant for married participants if these options were available under their previous plan.

Plan Termination

Although the Company has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. Upon either of these events, the accounts of each affected employee will vest immediately, and participants will receive a distribution of their total participant account balance.

Administrative Expenses

Administrative expenses of the Plan are generally paid through the forfeiture account. Participants are charged investment management fees, which are credited to participant accounts.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

2. Summary of Significant Accounting Policies

Basis of Accounting

The financial statements of the Plan are prepared using the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

Valuation of Investments and Income Recognition

Investments are stated at fair value. Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the Plan year. Investments for which no sale was reported on that date are valued at the average of the last reported bid and ask prices. Shares of mutual funds are valued at quoted market prices, which represent the net asset values of shares held by the Plan at year-end. Common/collective trust funds are stated at fair value, as determined by the trustee. The New York Life Stable Value Option consists primarily of insurance contracts valued at contract value. Investment contracts are recorded at contract value. Participant loans are valued at their outstanding balances, which approximate fair value. Purchases and sales of securities are reported on a trade date basis. Dividend income is recorded on the ex-dividend date and interest income is recorded on the accrual basis. Gains and losses on security transactions are determined using the average cost method.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

3. Investments

The fair value of individual investments that represent 5% or more of the Plan's net assets are as follows:

	2003	December 31	2002
J.P. Morgan SmartIndex Collective Fund			\$28,327,353
American Century Strategic Allocation Moderate Fund			19,608,090
American Century Ultra Fund			19,344,590
J.P. Morgan Prime Money Market Fund			20,866,450
PolyOne Common Stock*			9,834,135
J.P. Morgan Institutional Bond Fund			12,936,416
PolyOne Common Stock	\$54,138,598		
NYL Insurance Anchor Account I – Stable Value Option	61,832,126		
PIMCO Total Return Fund	17,911,550		
Mainstay S&P 500 Index Fund	65,803,485		
Growth Fund of America	32,901,477		
Alliance Bernstein Balanced Shares	25,787,959		

*Nonparticipant-directed

During 2003, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated in fair value as follows:

Common stock	\$ 6,245,202
Mutual funds	19,594,850
Common/collective trust funds	3,052,098
	<u>\$28,892,150</u>

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

4. Nonparticipant-Directed Investments

Effective June 1, 2003 all investments became participant directed. At December 31, 2002 and for the period January 1, 2003 to May 31, 2003, the PolyOne Stock fund contained participant account balances that were both participant-directed and nonparticipant-directed. Because the fund contained balances that were nonparticipant-directed, the entire fund is considered nonparticipant-directed for disclosure purposes.

Information about the net assets and the significant components of the changes in net assets relating to the nonparticipant-directed investments is as follows:

	December 31, 2002
Net assets:	
Assets:	
Investments at fair value:	
PolyOne Common Stock	\$ 9,834,135
Money market funds	173,504
Employer contribution receivable	238,171
Net pending sales	30,665
Net assets	\$10,276,475
	Period January 1, 2003 to May 31, 2003
Changes in net assets:	
Additions:	
Interest and dividend income	\$ 105
Net appreciation in fair value of investments	2,894,209
Contributions:	
Participant	184,591
Employer	553,578
Deductions:	
Benefits paid directly to participants	343,170
Net transfers to participant directed funds	13,564,882
Administrative expenses	906
Net decrease	\$(10,276,475)

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

Notes to Financial Statements (continued)

5. Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

6. Income Tax Status

The Plan has received a determination letter from the Internal Revenue Service dated March 10, 2004, stating that the Plan is qualified under Section 401(a) of the Internal Revenue Code (the Code). As a result the related trust is exempt from taxation. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualification. The Plan Sponsor believes the Plan is being operated in compliance with the applicable requirements of the Code, and therefore believes that the Plan is qualified and the related trust is tax exempt.

PolyOne Retirement Savings Plan
(formerly the M.A. Hanna Company 401(k) and Retirement Plan)

EIN: 34-1730488

Plan Number: 010

Schedule H, Line 4i—Schedule of Assets

(Held at End of Year)

December 31, 2003

Identity of Issue, Borrower, Lessor or Similar Party	Description of Investment	Current Value
	PolyOne Stock Fund—	
Mainstay Management	Mainstay Cash Reserves Fund I	\$ 1,246,445
PolyOne Corporation*	Common stock: 8,472,394 shares	54,138,598
New York Life Insurance*	Anchor Account I - Stable Value Option	61,832,126
Monumental Life	Guaranteed contract, 6.29%, February 23, 2004	1,117,595
MetLife Insurance	Guaranteed contract, 6.33%, March 31, 2004	1,050,102
Principal Life	Guaranteed contract, 6.73%, March 31, 2004	2,022,348
Pacific Investment Management Company	PIMCO Total Return Fund	17,911,550
AIM Advisors	Small Cap Growth Fund	4,248,973
Capital Research & Management	American Funds—Euro Pacific Growth Fund	9,840,644
	American Funds—Growth Fund of America Fund	32,901,477
	American Funds—Washington Mutual Investors Fund	6,158,432
Mainstay Management	Mainstay S&P 500 Index Fund	65,803,485
	MainStay MAP Fund	12,235,707
Franklin Advisory Services	Franklin Balance Sheet Investment Fund	3,036,392
Alliance Capital Management	Alliance Bernstein Balanced Shares	25,787,959
Brokerage Account	Various investments	2,606,123
Participant loans*	At interest rates ranging from 4.25% to 10.5%	12,077,695
		<u>\$314,015,651</u>

*Indicates party-in-interest to the Plan.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-47796) pertaining to the PolyOne Retirement Savings Plan of our report dated June 15, 2004, with respect to the financial statements and schedule of the PolyOne Retirement Savings Plan included in this Annual Report (Form 11-K) for the year ended December 31, 2003.

/s/ Ernst & Young LLP

Cleveland, Ohio
June 22, 2004