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)

[X] 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 FOR COLLECTIVE BARGAINING EMPLOYEES A

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 For Collective Bargaining Employees A, prepared in accordance with the financial reporting requirements of ERISA, are being filed herewith:

| Unaudited Financial Statements and Supplemental Schedules |
|---|
|---|

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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 FOR COLLECTIVE BARGAINING EMPLOYEES A

By: PolyOne Corporation Committee for Employee Benefits Administration

By: /s/ Michael J. Meier

Michael J. Meier Corporate Controller PolyOne Corporation UNAUDITED FINANCIAL STATEMENTS AND SUPPLEMENTAL SCHEDULES PolyOne Retirement Savings Plan for Collective Bargaining Employees A December 31, 2003

Financial Statements and Supplemental Schedules

December 31, 2003

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Statements of Net Assets Available for Benefits

December 31, 2003

| Assets | |
|-----------------------------------|-----------|
| Investments, at fair value | \$115,888 |
| Receivables: | — |
| Net assets available for benefits | \$115,888 |

Statement of Changes in Net Assets Available for Benefits

Year ended December 31, 2003

| Additions | |
|---|-----------|
| Transfer-In: | |
| Securities Received In-Kind from Geon Retirement Savings Plan | \$ 32,433 |
| Conversion Assets from Geon Retirement Savings Plan | 30,120 |
| | 62,553 |
| Investment Income: | |
| Interest & brokerage income | 92 |
| Capital Gains | 214 |
| Dividends | 592 |
| Net appreciation in fair value of investments | 12,669 |
| | 13,567 |
| Contributions: | |
| Employer | 23,897 |
| Participant | 21,792 |
| | 45,689 |
| Total Additions | 121,809 |
| Deductions | |
| Withdrawals and distributions: | |
| Cash | 5,871 |
| Common stock | — |
| Loans deemed distributions and administration fees | 50 |
| Total Deductions | 5,921 |
| Net Increase | 115,888 |
| Net Assets Available for Benefits | |
| Beginning of year | _ |
| End of year | \$115,888 |

Notes to Financial Statements

December 31, 2003

1. Summary Description of the Plan

The following summary description of the PolyOne Retirement Savings Plan for Collective Bargaining Employees A (the 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

PolyOne Corporation (the Company and Plan Sponsor) sponsors the Plan. The Company was formed by the consolidation of The Geon Company and M. A. Hanna Company on August 31, 2000. The Plan became effective on June 1, 2003 and was formed as an amendment and restatement of The Geon Retirement Savings Plan (the Predecessor Plan) as it pertains to the collective bargaining unit.

The Plan is a defined contribution plan covering eligible employees participating in the Predecessor Plan as of May 31, 2003. Other eligible employees shall become a participant under the Plan as soon as administratively practicable following the later of (i) employment date or (ii) the date they attain age eighteen. In no event, however, shall any employee (or other individual) participate under the Plan unless he is included in a unit of employees covered by a collective bargaining agreement between the Company and the employee representatives under which retirement benefits were the subject of good faith bargaining, the terms of which expressly provide for inclusion in the Plan, and both employeed at the Company's Louisville, Kentucky facility and hired after May 31, 2001. 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.

Notes to Financial Statements (continued)

1. Summary Description of the Plan (continued)

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.

Prior to June 2003, the Plan provided for a Company matching contribution equal to 100% for each \$1 contributed, on the first 6% of eligible employee compensation. The employer match was directed to the PolyOne Stock Fund. Effective June 1, 2003, Company 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 a retirement contribution for each participant equal to 2% of eligible earnings. Both the employer matching and retirement contributions follow the participant's investment elections.

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.

Participant Loans

Participants may borrow from employee contributions and related earnings in their fund accounts. Participants may borrow a minimum of \$1,000 up to an amount equal to the lesser of one half of the total vested account balance, or \$50,000 reduced by the greater of (i) the highest outstanding loan balance in the last 12 months, or (ii) the outstanding balance of loans from the Plan on the date such loan is made. The interest rate on each loan is a fixed rate based on the trustee's prime rate. Payments on loans are made through payroll deductions and must be repaid within 5 years (personal loans) or 5-15 years (primary residence loans).

Vesting

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

Notes to Financial Statements (continued)

1. Summary Description of the Plan (continued)

Payment of Benefits

Upon retirement or separation from service participants may take a distribution of the vested account balance. Employee after-tax contributions may be withdrawn at the discretion of the participant. Distributions are made in payments of cash or common stock.

Plan Termination

Although it 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. In the event of termination of the Plan, the net assets of the Plan will be distributed to the participants based on the respective value of their accounts.

Administrative Expenses

All significant accounting and administrative fees are paid by the Company. Trust and custody fees are paid by the Plan.

2. Summary of Significant Accounting Policies

Basis of Accounting

The Plan's financial statements are reported on the accrual basis of accounting.

Use of Estimates

The preparation of the 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.

Notes to Financial Statements (continued)

2. Summary of Significant Accounting Policies (continued)

Valuation of Investments and Income Recognition

Investments are stated at fair value. Investments in common stock are valued at the last reported sales price of the common stock on the last business day of the plan year. The shares of registered investment companies are valued at quoted market prices that represent the net asset values of shares held by the Plan at year-end. The common trust fund consists primarily of insurance contracts, valued at contract value. Investments in common trust funds, consisting of short-term fixed income obligations, have a fair value approximating cost. The participant loans are recorded at their outstanding balances, which approximate fair value.

3. Investments

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

| | Net Appreciation in Fair Value of Investments |
|--------------|---|
| Common stock | \$ (2,577) |
| Mutual funds | 15,246 |
| | \$12,669 |
| | |

Notes to Financial Statements (continued)

3. Investments (continued)

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

| | December 31, 2003 |
|--|----------------------|
| PolyOne Corporation Common Stock (Unrestricted) | \$30,124 |
| The Growth Fund of America | 10,740 |
| Mainstay S & P 500 Index Fund | 32,746 |
| NYL Insurance Anchor Account I – Stable Value Option | 8,848 |
| American Washington Mutual Investor's Fund | 6,177 |
| PIMCO Total Return Fund | 10,968 |
| AIM Small Cap Growth Fund | 7,482 |

4. 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.

5. 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) and, therefore, 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.

EIN:34-1730488 Plan Number: 033

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 | Cost | Current Value |
|---|---|-----------------|------------------|
| PolyOne Corporation* | PolyOne Unrestricted Stock Fund- Mainstay Cash Reserves Fund I Common stock: 4,580 shares | \$858 22,772 | \$858 29,266 |
| New York Life Insurance* | New York Life Insurance Anchor Account I - Stable Value Option | | 8,848 |
| Pacific Investment Management Company | PIMCO Total Return Fund- primarily Intermediate-term bond fund | | 10,968 |
| AIM | Small Cap Growth Fund- long-term capital appreciation | | 7,482 |
| American Funds | EuroPacific Growth Fund- foreign long-term capital growth | | 3,931 |
| | Growth Fund of America Fund- mostly U.S. large capital growth fund | | 10,740 |
| | Washington Mutual Investors Fund- income and principal fund | | 6,177 |
| Eclipse | Eclipse Indexed Equity Fund - S&P 500 index fund | | 32,746 |
| Franklin | Franklin Balance Sheet Investment Fund- total return equity fund | | 1,704 |
| MainStay | MainStay MAP Fund- long-term capital appreciation | | 1,189 |
| AllianceBernstein | Alliance Balanced Shares- current income and capital appreciation | | 71 |
| Participant Loans* | | | 1,908 |
| | | | \$115,888 |

* Indicates party-in-interest to the Plan.