

ITEM 1.

(A) NAME OF ISSUER
POLYONE CORPORATION

(B) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

SUITE 36-5000
200 PUBLIC SQUARE
CLEVELAND, OHIO 44114-2403

ITEM 2.

(A) NAME OF PERSON FILING
STATE STREET BANK AND TRUST COMPANY, TRUSTEE

(B) ADDRESS OF PRINCIPAL BUSINESS OFFICE OR, IF NONE,
RESIDENCE

225 FRANKLIN STREET, BOSTON, MA 02110

(C) CITIZENSHIP

BOSTON, MASSACHUSETTS

(D) TITLE OF CLASS OF SECURITIES

COMMON STOCK

(E) CUSIP NUMBER

73179P106

ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO RULE 13D-1(B), OR
13D-2(B), CHECK WHETHER THE PERSON FILING IS A:

(B) X BANK AS DEFINED IN SECTION 3(A)(6) OF THE ACT

PAGE 4 OF 5 PAGES

ITEM 4. OWNERSHIP

(A) AMOUNT BENEFICIALLY OWNED

6,854,233 SHARES

(B) PERCENT OF CLASS

7.3%

(C) NUMBER OF SHARES AS TO WHICH SUCH PERSON HAS:

(I) SOLE POWER TO VOTE OR TO DIRECT THE VOTE

685,700 SHARES

(II) SHARED POWER TO VOTE OR TO DIRECT THE VOTE

6,105,033 SHARES

(III) SOLE POWER TO DISPOSE OR TO DIRECT THE DISPOSITION OF

748,880 SHARES

(IV) SHARED POWER TO DISPOSE OR TO DIRECT THE DISPOSITION OF

6,105,353 SHARES

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

NOT APPLICABLE

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER
PERSON.

THE GEON COMPANY RETIREMENT SAVINGS PLAN = 6.5%

ITEM 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH
ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING
COMPANY

NOT APPLICABLE

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP

NOT APPLICABLE

ITEM 9. NOTICE OF DISSOLUTION OF GROUP

NOT APPLICABLE

PAGE 5 OF 5 PAGES

ITEM 10. CERTIFICATION

THE FOLLOWING CERTIFICATION SHALL BE INCLUDED IF THE STATEMENT IS FILED PURSUANT TO RULE 13D-1(B):

BY SIGNING BELOW I CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE SECURITIES REFERRED TO ABOVE WERE ACQUIRED IN THE ORDINARY COURSE OF BUSINESS AND WERE NOT ACQUIRED FOR THE PURPOSE OF AND DO NOT HAVE THE EFFECT OF CHANGING OR INFLUENCING THE CONTROL OF THE ISSUER OF SUCH SECURITIES AND WERE NOT ACQUIRED IN CONNECTION WITH OR AS A PARTICIPANT IN ANY TRANSACTION HAVING SUCH PURPOSES OR EFFECT.

THIS REPORT IS NOT AN ADMISSION THAT STATE STREET BANK AND TRUST COMPANY IS THE BENEFICIAL OWNER OF ANY SECURITIES COVERED BY THIS REPORT, AND STATE STREET BANK AND TRUST COMPANY EXPRESSLY DISCLAIMS BENEFICIAL OWNERSHIP OF ALL SHARES REPORTED HEREIN PURSUANT TO RULE 13D-4.

SIGNATURE

AFTER REASONABLE INQUIRY AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, I CERTIFY THAT THE INFORMATION SET FORTH IN THIS STATEMENT IS TRUE, COMPLETE AND CORRECT.

12 FEBRUARY 2001

STATE STREET CORPORATION
STATE STREET BANK AND TRUST COMPANY,
TRUSTEE

/s/ SUSAN C. DANIELS
VICE PRESIDENT