

NOT APPLICABLE

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

8.1%

12. TYPE OF REPORTING PERSON*

BK

SCHEDULE 13G

PAGE 3 OF 5 PAGES

ITEM 1.

(A) NAME OF ISSUER

3M CO.

(B) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES

3M CENTER

BLDG 220-11W-02

ST. PAUL MN 55144-1000

ITEM 2.

(A) NAME OF PERSON FILING

STATE STREET BANK AND TRUST COMPANY, TRUSTEE

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

STATE STREET FINANCIAL CENTER

ONE LINCOLN STREET

BOSTON, MA 02111

(C) CITIZENSHIP

BOSTON, MASSACHUSETTS

(D) TITLE CLASS OF SECURITIES

COMMON

(E) CUSIP NUMBER

88579Y101

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

SCHEDULE 13G

PAGE 4 of 5 PAGES

ITEM 4. OWNERSHIP

(A) AMOUNT BENEFICIALLY OWNED

56,261,994 SHARES

(B) PERCENT OF CLASS

8.1%

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

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

33,146,626 SHARES

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

23,115,368 SHARES

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

0 SHARES

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

56,261,994 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.

NOT APPLICABLE

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

SCHEDULE 13G 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.

17 FEBRUARY 2009

STATE STREET CORPORATION
STATE STREET BANK AND TRUST COMPANY,
TRUSTEE

/s/ SYDNEY MARZEOTTI
VICE PRESIDENT