

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

FORM S-8
REGISTRATION STATEMENT
 UNDER
THE SECURITIES ACT OF 1933

CABOT CORPORATION
 (Exact Name of Registrant as Specified in Its Charter)

Delaware
 (State or Other Jurisdiction of
 Incorporation or Organization)

04-2271897
 (I.R.S. Employer
 Identification No.)

Two Seaport Lane
Suite 1300
Boston, MA
 (Address of Principal Executive Offices)

02210
 (Zip Code)

Cabot Retirement Savings Plan
 (Full Title of the Plan)

Brian A. Berube, Esq.
Vice President and General Counsel
Two Seaport Lane
Suite 1300
Boston, MA 02210
 (Name and Address of Agent For Service)

617-345-0100
 (Telephone Number, Including Area Code, of Agent For Service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b2 of the Exchange Act.

Large accelerated filer Accelerated filer
 Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, \$1.00 par value per share	500,000 shares	\$23.67(2)	\$11,835,000(2)	\$1,357

(1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall be deemed to cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions. In addition, pursuant to Rule 416(c) under the Securities Act of 1933, this registration statement also covers an indeterminate amount of interests to be offered or sold pursuant to the employee benefit plan described herein.

(2) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended, and based upon the average of the high and low prices of the Registrant's Common Stock as reported on the New York Stock Exchange on October 4, 2011.

EXPLANATORY NOTE

Cabot Corporation (“registrant”) is filing this registration statement on Form S-8 to register additional shares of its common stock that may be issued under the Cabot Retirement Savings Plan as either employer matching contributions or employee contributions to the Cabot common stock fund.

PART I
INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.

The information required by Item 1 will be included in documents sent or given to participants in the plan covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act of 1933, as amended (the “Securities Act”).

Item 2. Registrant Information and Employee Plan Annual Information.

The written statement required by Item 2 will be included in documents sent or given to participants in the plan covered by this registration statement pursuant to Rule 428(b)(1) of the Securities Act.

PART II
INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The registrant is subject to the informational and reporting requirements of Sections 13(a), 14, and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). The following documents, which are on file with the Commission, are incorporated in this registration statement by reference:

(a) The latest annual report on Form 11-K filed by the plan covered by this registration statement on June 29, 2011 pursuant to Section 15(d) of the Exchange Act and the registrant's latest annual report on Form 10-K filed on November 29, 2010 pursuant to Section 13(a) or 15(d) of the Exchange Act.

(b) Quarterly reports on Form 10-Q filed on February 9, 2011, May 10, 2011 and August 9, 2011 and current reports on Form 8-K filed on March 15, 2011, August 25, 2011, August 26, 2011, September 9, 2011 and September 15, 2011, all pursuant to Section 13(a) or 15(d) of the Exchange Act.

(c) The description of the registrant's Common stock, par value \$1.00 per share, contained in the registrant's registration statement on Form 10 filed with the Commission pursuant to Section 12 of the Exchange Act.

All documents subsequently filed by the registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of the filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

The validity of the securities has been passed upon by Brian A. Berube, the registrant's Vice President and General Counsel. At the time of rendering his opinion, Mr. Berube had a beneficial ownership interest in 81,488 shares of the registrant's common stock. It is anticipated that additional shares will be issued to Mr. Berube pursuant to the registrant's equity incentive and employee benefit plans.

Item 6. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law, as amended, provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal or investigative (other than an action by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful. Section 145 further provides that a corporation similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor, against expenses actually and reasonably incurred in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interest of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 102(b)(7) of the Delaware General Corporation Law, as amended, permits a corporation to include in its certificate of incorporation a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided, however, that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law (relating to unlawful payment of dividends and unlawful stock purchase and redemption) or (iv) for any transaction from which the director derived an improper personal benefit.

Article Eighth, Section (j) of the registrant's Restated Certificate of Incorporation and Section 14 of the registrant's By-laws, as amended, provide that the registrant shall indemnify any person who was a party, is a party or is threatened to be made a party to any threatened, pending or completed action, suit, or proceeding by reason of the fact that such person is or was a director, officer, employee or agent of the registrant or is or was serving at the request of the registrant as a director, officer, employee or agent of another company or enterprise, including service as a fiduciary of an employee benefit plan, against expenses (including attorneys' fees), judgments, fines, penalties and amounts paid in settlement incurred in connection with such action, suit or proceeding to the extent permitted from time to time under the Delaware General Corporation Law. Such indemnification shall be made as authorized in a specific case upon a determination (i) by the Board of Directors by majority vote of a quorum of disinterested directors, (ii) if a quorum of disinterested directors is not available or a quorum of disinterested directors so directs, by independent legal counsel in a written opinion, or (iii) by the stockholders of the registrant. The rights of indemnification are not exclusive of any other rights to which those seeking indemnification may be entitled and shall continue as to a person who ceases to be a director, officer, employee or agent. In addition, under Article Eighth, Section (i) of the registrant's Restated Certificate of Incorporation, no director or officer of the registrant shall be liable to the registrant or its stockholders for monetary damages for any breach of fiduciary duty, except to the extent that Delaware General Corporation Law prohibits the elimination or limitation of liability of directors or officers for breach of fiduciary duty.

All of the registrant's directors and officers are covered by insurance policies maintained by the registrant against specified liabilities for actions taken in their capacities as such, including liabilities under the Securities Act.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

The Exhibit Index immediately preceding the exhibits is incorporated herein by reference.

Item 9. Undertakings.

1. Item 512(a) of Regulation S-K. The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (i) and (ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

2. Item 512(b) of Regulation S-K. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act and each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

3. Item 512(h) of Regulation S-K. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

4. Item 8 of Form S-8. The undersigned registrant hereby undertakes that it will submit or has submitted the plan covered by this registration statement and any amendment thereto to the Internal Revenue Service ("IRS") in a timely manner and has made or will make all changes required by the IRS in order to qualify the plan.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Boston, Massachusetts on this 4th day of October, 2011.

CABOT CORPORATION

By: /s/ Patrick M. Prevost
Patrick M. Prevost
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, the trustees (or other persons who administer the employee benefit plan) have duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Boston, Massachusetts on this 4th day of October, 2011.

CABOT RETIREMENT SAVINGS PLAN

By: /s/ Robby D. Sisco
Robby D. Sisco
Vice President

POWER OF ATTORNEY AND SIGNATURES

We, the undersigned officers and directors of Cabot Corporation, hereby severally constitute and appoint Brian A. Berube and Jane A. Bell, and each of them singly, our true and lawful attorneys with full power to them, and each of them singly, to sign for us and in our names in the capacities indicated below, the registration statement on Form S-8 filed herewith and any and all subsequent amendments to said registration statement, and generally to do all such things in our names and on our behalf in our capacities as officers and directors to enable Cabot Corporation to comply with the provisions of the Securities Act of 1933, as amended, and all requirements of the Securities and Exchange Commission, hereby ratifying and confirming our signatures as they may be signed by our said attorneys, or any of them, to said registration statement and any and all amendments thereto.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Patrick M. Prevost</u> Patrick M. Prevost	President, Chief Executive Officer and Director (Principal executive officer)	October 4, 2011
<u>/s/ Eduardo E. Cordeiro</u> Eduardo E. Cordeiro	Executive Vice President and Chief Financial Officer (Principal financial officer)	October 4, 2011
<u>/s/ James P. Kelly</u> James P. Kelly	Vice President and Controller (Principal accounting officer)	October 4, 2011
<u>/s/ John F. O'Brien</u> John F. O'Brien	Director, Non-Executive Chairman of the Board	October 4, 2011
<u>/s/ John S. Clarkeson</u> John S. Clarkeson	Director	October 4, 2011
<u>/s/ Juan Enriquez-Cabot</u> Juan Enriquez-Cabot	Director	October 4, 2011
<u>/s/ Gautam S. Kaji</u> Gautam S. Kaji	Director	October 4, 2011
<u>/s/Roderick C. G. MacLeod</u> Roderick C.G. MacLeod	Director	October 4, 2011
<u>/s/ Henry F. McCance</u> Henry F. McCance	Director	October 4, 2011
<u>/s/ John K. McGillicuddy</u> John K. McGillicuddy	Director	October 4, 2011
<u>/s/Sue H. Rataj</u> Sue H. Rataj	Director	October 4, 2011
<u>/s/ Ronaldo H. Schmitz</u> Ronaldo H. Schmitz	Director	October 4, 2011
<u>/s/ Lydia W. Thomas</u> Lydia W. Thomas	Director	October 4, 2011
<u>/s/ Mark S. Wrighton</u> Mark S. Wrighton	Director	October 4, 2011

INDEX TO EXHIBITS

<u>Number</u>	<u>Description</u>
4.1	Restated Certificate of Incorporation of Cabot Corporation effective January 9, 2009 (incorporated herein by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q of Cabot Corporation for the quarterly period ended December 31, 2008, File No. 1-5667, filed with the Commission on February 9, 2009).
4.2	The By-laws of Cabot Corporation, as amended September 11, 2009 (incorporated herein by reference to Exhibit 3(b) to the Annual Report on Form 10-K of Cabot Corporation for the year ended September 30, 2009, File No. 1-5667, filed with the Commission on November 30, 2009), and as amended September 9, 2011 (incorporated herein by reference to Exhibit 3.1. to the Current Report on Form 8-K of Cabot Corporation dated September 9, 2011, File No. 1-5667, filed with the Commission on September 9, 2011).
5.1	Opinion of Brian A. Berube as to the legality of the securities.
23.1	Consent of Deloitte & Touche LLP.
23.2	Consent of Brian A. Berube (contained in Exhibit 5.1).
24	Power of attorney (included on the signature page of this registration statement).

October 4, 2011

Cabot Corporation
Two Seaport Lane
Suite 1300
Boston, MA 02210

Re: Cabot Retirement Savings Plan

Ladies and Gentlemen:

I am Vice President and General Counsel of Cabot Corporation, a Delaware corporation (the "Company"), and have represented the Company in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933 (the "Act") of a Registration Statement on Form S-8 (the "Registration Statement") relating to up to 500,000 shares (the "Shares") of the Company's common stock, par value \$1.00 per share, issuable pursuant to the Cabot Retirement Savings Plan (the "Plan").

I have examined the Company's Restated Certificate of Incorporation and By-Laws, as amended to date, and originals, or copies certified or otherwise identified to my satisfaction, of corporate records of the Company, including minute books of the Company, certificates of public officials and of representatives of the Company, statutes and other instruments or documents, as a basis for the opinion hereinafter expressed. In making my examination, I have assumed that all signatures on all documents examined by me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof and that all information submitted to me was accurate and complete.

Based on the foregoing, I am of the opinion that the Shares have been duly and validly authorized for issuance by all necessary corporate action on the part of the Company and, upon delivery thereof and payment therefor in accordance with the Plan and the Registration Statement, will be validly issued, fully paid, and non-assessable.

This opinion is limited to the original issuance of Shares by the Company.

I am a member of the Massachusetts Bar and the opinion set forth above is limited in all respects to the laws of The Commonwealth of Massachusetts and the General Corporation Law of the State of Delaware, including the reported cases interpreting those laws, as in effect on the date hereof.

I hereby consent to the filing of this opinion with the Commission in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act. In giving such consent, I do not thereby admit that I am in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Brian A. Berube

Brian A. Berube

Vice President and General Counsel

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports relating to the financial statements of Cabot Corporation (which report expresses an unqualified opinion and includes an explanatory paragraph relating to the Company's change (i) in its method of accounting for earnings per share; and (ii) in the presentation of non-controlling interests), and the effectiveness of Cabot Corporation's internal control over financial reporting dated November 29, 2010, appearing in the Annual Report on Form 10-K of Cabot Corporation for the year ended September 30, 2010, and our report dated June 28, 2011 relating to the financial statements and financial statement schedule of the Cabot Retirement Savings Plan appearing in the Annual Report on Form 11-K of the Cabot Retirement Savings Plan for the year ended December 31, 2010.

/s/ *DELOITTE & TOUCHE LLP*

Boston, Massachusetts
October 4, 2011