



DIVISION OF
CORPORATION FINANCE

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

February 15, 2012

Via E-mail

Mr. Eduardo Cordeiro
Executive Vice President and Chief Financial Officer
Cabot Corporation
Two Seaport Lane, Suite 1300
Boston, MA 02210

**RE: Cabot Corporation
Form 10-K for the Year ended September 30, 2011
Filed November 29, 2011
Form 10-Q for the Quarter ended December 31, 2011
Filed February 8, 2012
File No. 1-5667**

Dear Mr. Cordeiro:

We have reviewed your filings and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Year Ended September 30, 2011

Item 7 – Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 30

Results of Operations, page 37

1. You present total segment EBIT on page 42. Since total segment EBIT represents a non-GAAP measure when it is presented or discussed outside of your SFAS 131 footnote, in future filings you should ensure either:
 - (a) Total segment EBIT it is not presented outside of your SFAS 131 footnote or
 - (b) If you choose to present total segment EBIT outside of your SFAS 131, you must include all the disclosures required by Item 10(e) of Regulation S-K including the following:

- reconcile from total segment EBIT to income (loss) from continuing operations before taxes and then on to net income to highlight the differences between the non-GAAP measure and operating income,
- identify this amount as a non-GAAP performance measure,
- state the material limitations associated with use of the non-GAAP financial measure as compared to the use of the most directly comparable GAAP financial measure,
- state the manner in which management compensates for these limitations when using the non-GAAP financial measure,
- explain why your management believes that this measure provides useful information to investors,
- state how your management uses the non-GAAP measure,
- provide cautionary disclosure that the non-GAAP measure presented may not be comparable to similarly titled measures used by other entities and
- state that this non-GAAP measure should not be considered as an alternative to net income, which is determined in accordance with GAAP.

See also Question 104.04 of the SEC Compliance and Disclosure Interpretations: Non-GAAP Financial Measures. Please show us in your supplemental response what the revisions will look like.

Item 8 – Financial Statements and Supplementary Data, page 54

Note A – Significant Accounting Policies, page 62

General

2. Please disclose in future filings the types of expenses that you include in the cost of sales line item and the types of expenses that you include in the selling and administrative expenses line item. Please also disclose whether you include inbound freight charges, purchasing and receiving costs, inspection costs, warehousing costs, internal transfer costs, and the other costs of your distribution network in the cost of sales line item. With the exception of warehousing costs, if you currently exclude a portion of these costs from cost of sales, please disclose:
 - in a footnote the line items that these excluded costs are included in and the amounts included in each line item for each period presented, and
 - in MD&A that your gross margins may not be comparable to those of other entities, since some entities include all of the costs related to their distribution network in cost of sales and others like you exclude a portion of them from gross margin, including them instead in a line item such as selling and administrative expenses.Please show us in your supplemental response what the revisions will look like.

Inventories, page 62

3. You use both the average cost and FIFO methods to determine the cost of your inventories for all non-U.S. inventories and certain U.S. inventories. You should generally use one inventory method for similar types of inventories. Please disclose in future filings which types of inventory you use each method for, and disclose whether you use both methods for any similar types of inventory. If so, please also disclose your basis for doing this. Please show us in your supplemental response what the revisions will look like.

Note S – Income Taxes, page 97

4. We note that you repatriated \$24 million of high tax income in response to recent changes in U.S. tax legislation. Please tell us and revise your disclosure in future filings to address how you concluded, in light of your repatriation, that you have the ability and intent to invest \$887 million of undistributed earnings of non-U.S. subsidiaries indefinitely as of September 30, 2011. Please refer to ASC 740-30-25-17 though 19.
5. Based on your disclosure on pages 97 and 98, it appears that (i) you generate a significant amount of income from continuing operations before income taxes and equity in net earnings of affiliated companies from locations outside of the United States, (ii) a significant portion of your provision (benefit) for income taxes is composed of non-U.S. amounts, and (iii) the difference between income tax provision as calculated using the U.S. statutory rate and your effective tax rate is due, in part to adjustments related to foreign income. Please tell us what countries comprise a material amount of your foreign taxes and whether you generate a disproportionate amount of taxable income in countries with very low tax rates.

Note T – Commitments and Contingencies, page 101

Contingencies-Environmental Matters, page 102

6. We have reviewed the tables representing your estimated future undiscounted payments related to your respirator reserves you presented in your Forms 10-K for the years ended September 30, 2010, 2009 and 2008. In 2008, you estimated those payments to be \$1 million, \$1 million and \$2 million for the years ended September 30, 2009, 2010 and 2011. In 2009, you estimated those payments to be \$1 million and \$2 million for the years ended September 30, 2010 and 2011. In 2010, you estimated those payments to be \$4 million for the year ended September 30, 2011. We further note that you have made payments of \$5 million, \$2 million, \$2 million and \$2 million for the four fiscal years ended September 30, 2011. In light of the fact that you have consistently paid more than what you had estimated for these payments, tell us your basis for your estimated future undiscounted payments as reflected on page 48. Tell us why the \$5 million payment in 2011 is not indicative of potential future payments.

Item 15 – Exhibits, Financial Statement Schedules, page 117

Exhibit 10(a) – Credit Agreement dated August 26, 2011

7. Please refer to comment 10 in our letter dated January 25, 2010. We note that you continue to omit the schedules and exhibits from the public filing of the new credit agreement. Please file a complete copy of the credit agreement, including all schedules and exhibits, with your next Exchange Act report. In addition, please be advised that this agreement should have been filed as an exhibit to the Form 8-K dated August 26, 2011 reporting the entry into this material definitive agreement. See Footnote (2) to Exhibit Table of Item 601 of Regulation S-K, which states that a Form 8-K exhibit is required only if relevant to the subject matter reported on the Form 8-K report.

Form 10-Q for the Quarter Ended December 31, 2012

General

8. Please address the above comments in your interim filings as well, as applicable.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Mr. Eduardo Cordeiro
Cabot Corporation
February 15, 2012
Page 5

You may contact Era Anagnosti, Staff Attorney, at (202) 551-3369 or, in her absence, Pamela Long, Assistant Director, at (202) 551-3765 if you have any questions regarding legal or disclosure matters. Please contact Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or, in his absence, Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

/s/ Rufus Decker

Rufus Decker
Accounting Branch Chief