

Rufus Decker, Accounting Branch Chief
 Division of Corporation Finance
 United States Securities and Exchange Commission
 Washington, D.C. 20549

Re: Cabot Corporation
File No. 1-5667

Dear Mr. Decker:

This letter is being submitted in response to the Staff's comment letter of February 15, 2012 in respect of Cabot Corporation's Form 10-K for the fiscal year ended September 30, 2011 and Form 10-Q for the quarter ended December 31, 2011. For ease of reference, we have restated the Staff's comments before our responses below.

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 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.

Cabot Response:

In future filings, we will expand upon the "Definition of Terms" within the existing first paragraph on page 37 of our 10-K to substantially read as follows:

"Total Segment EBIT. The following discussion of results includes information on our reportable segment sales and segment (or business) operating profit (loss) before interest and tax ("segment EBIT"). Total Segment EBIT is a non-GAAP performance measure, and should not be considered an alternative for

Income (loss) from continuing operations before taxes, the most directly comparable GAAP financial measure. In calculating total segment EBIT, we exclude “certain items”, meaning items that management does not consider representative of our fundamental segment results, as well as items that are not allocated to our business segments, such as interest expense and other corporate costs. Our Chief Operating Decision Maker uses segment EBIT to evaluate the operating results of each segment and to allocate resources to the segments. We believe that this non-GAAP measure provides useful supplemental information for our investors as it is an important indicator of the Company’s operational strength and performance. Investors should consider the limitations associated with this non-GAAP measure, including the potential lack of comparability of this measure from one company to another. A reconciliation of total segment EBIT to Income (loss) from continuing operations before income taxes and equity in net earnings of affiliated companies is set forth within this section.”

The table included on page 42 of our 10-K reconciles total segment EBIT to Income (loss) from continuing operations before taxes which is the most directly comparable GAAP financial measure. There are no further non-GAAP differences between Income (loss) from continuing operations before taxes and Net Income.

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.

Cabot Response:

We confirm that we include the items listed in the Staff’s comment within cost of sales, therefore, the additional supplemental disclosures suggested in the comment would not be required. In future filings, we will include substantially the following discussion in our Significant Accounting Policies Note to disclose the types of expenses included in the cost of sales and selling and administrative expense line items:

“Cost of Sales

Cost of sales consists of the cost of raw and packaging materials, direct manufacturing costs, depreciation, internal transfer costs, inspection costs, inbound and outbound freight and shipping and handling costs, plant purchasing and receiving costs and other overhead expense necessary to manufacture the products.

Selling and Administrative Expenses

Selling and administrative expenses consist of salaries and fringe benefits of sales and office personnel, general office expenses and other expenses not directly related to manufacturing operations.”

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.*

Cabot Response:

In our Significant Accounting Policies Note on page 62 of our Form 10-K, under Inventories, we disclosed that we use the LIFO method to account for most of our U.S. inventories. The LIFO methodology is used for our U.S. carbon black inventories. Cabot uses the average cost method for Specialty Fluids inventories and the FIFO method to determine the cost of inventories for all other U.S. and non-U.S. inventories. In future filings, we will include substantially the following discussion in our Inventories section of our Significant Accounting Policies Note:

“Inventories are stated at the lower of cost or market. The cost of all U.S. carbon black inventories is determined using the last-in, first-out (“LIFO”) method. The cost of Specialty Fluids inventories is determined using the average cost method. The cost of other U.S. and all non-U.S. inventories is determined using the first-in, first-out (“FIFO”) method.”

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 through 19.*

Cabot Response:

The repatriation referred to in our Form 10-K was made prior to the effective date of a change in tax law in order to preserve a significant tax benefit. It was a one-time event and is not indicative of our overall reinvestment plans and repatriation practices. Generally, cash generated from operations outside the U.S. has been used to fund growth in our non-U.S. operations and has not been repatriated to the U.S. as there has been no need to move cash to the U.S. We expect that these circumstances, both our cash needs in the U.S. and our intent to continue to invest our foreign earnings designated as indefinitely reinvested, to continue for the foreseeable future.

In future filings, we will expand upon the discussion of our reinvestment of undistributed earnings of non-U.S. subsidiaries, in substance as follows:

“As of September 30, 20xx, provisions have not been made for U.S. income taxes or non-U.S. withholding taxes on approximately \$xxx million of undistributed earnings of non-U.S. subsidiaries, as these earnings are considered indefinitely reinvested. Cabot continually reviews the financial position and forecasted cash flows of all its subsidiaries both within and outside the U.S. in order to reaffirm the Company’s intent and ability to continue to indefinitely reinvest earnings of these foreign subsidiaries or whether such earnings will need to be repatriated in the foreseeable future. Such review encompasses not only operational needs but also future capital investments. From time to time, however, our intentions relative to specific indefinitely reinvested amounts do change because of certain unique circumstances. For example, in 2011, the Company did remit certain high taxed earnings that had previously been considered indefinitely reinvested in order to preserve a tax benefit in advance of a tax law change.”

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.*

Cabot Response:

We reported a non-U.S. tax provision of \$64 million for fiscal 2011. More than half of this provision related to three countries (Japan, China, and Argentina) with the balance coming from twenty other countries, none of which had a material tax provision.

We reported Foreign Income from continuing operations of \$228 million for fiscal 2011. We do not believe that a disproportionate amount was from countries with very low tax rates as less than 10% of this income was generated in countries with an effective tax rate of less than 10%. The effective tax rate on the remainder of the Foreign Income from continuing operations was 24%.

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.*

Cabot Response:

As discussed in our 10-K, we have engaged, through counsel, Hamilton, Rabinovitz & Alshuler, Inc. (“HR&A”), a leading consulting firm in the field of tort liability valuation, to assist us in estimating future payments we will make for our share of existing and future respirator liability claims. HR&A updated the reserve analysis and the estimate of future annual payments in 2010. At that time, we were aware of a potential settlement of a particular group of cases, which, by their nature and jurisdiction, had unique characteristics. This settlement had not been contemplated in prior years. The increase in payments made in fiscal 2011 was principally the result of the settlement of these cases, which accelerated payments we likely would have otherwise made in future years. We do not believe this calls into question the anticipated timing of our payments on our remaining claim population as such population is generally homogeneous and does not possess the unique characteristics of the settled group.

With respect to the seeming discrepancy between our estimated annual payments and our actual annual payments, in our 10-K filings, we round the estimated payments and the actual costs incurred to the nearest million dollars. A comparison of our disclosed estimates for the last three fiscal years (including the revised estimate for fiscal 2011) and our actual costs incurred is set forth in the table below and demonstrates that the HR&A estimates have been reasonably close to the actual amounts incurred, but because the numbers have been rounded, there appears to be a greater discrepancy:

<u>Year</u>	<u>Undiscounted HR&A Estimate</u>	<u>Actual Payments</u>
2009	\$ 1.3 million	\$ 1.8 million
2010	\$ 1.4 million	\$ 1.7 million
2011	\$ 4.2 million	\$ 5.0 million

We continue to believe that we have enough visibility into our future cash flows to appropriately discount the liability. We also provide the reader the reserve amount on both a discounted and an undiscounted basis so they understand the impact of the discounting.

Item 15 – Exhibits, Financial Statement Schedules, page 117

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

- 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.*

Cabot Response:

We will file a complete copy of our credit agreement, including all schedules and exhibits, with our Quarterly Report on Form 10-Q for our fiscal quarter ended March 31, 2012.

With respect to your statement that the credit agreement should have been filed as an exhibit to the 8-K we filed disclosing the entry into the agreement, it is our understanding that while the Commission encourages companies to file the exhibit with the 8-K filing it is not required and that the agreement may be timely filed with the company's next periodic report.

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

8. General

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

Cabot Response:

The preceding supplemental responses include disclosures that we propose to include in our next filing that requires such disclosures. Accordingly, those disclosures described in responses 1, 2 and 3 will first appear in our Form 10-Q for the quarter ended March 31, 2012 while the disclosure described in response 4 will first appear in our Form 10-K for the year ended September 30, 2012.

As requested, in connection with responding to the Staff's comments, the Company hereby acknowledges that (i) the Company is responsible for the adequacy and accuracy of the disclosure in its filings, (ii) 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 (iii) 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.

We would be happy to discuss any of our responses with you at your convenience. Please do not hesitate to call Jim Kelly, Cabot's Controller, at 617-342-6020 with any questions concerning our financial statements, and Jane Bell, Cabot's Corporate Secretary and Counsel, at 617-342-6035 with any questions concerning legal matters.

Very truly yours,

/s/ Eduardo E. Cordeiro

Eduardo E. Cordeiro

Executive Vice President and Chief Financial Officer

Cc: Patrick M. Prevost
Brian A. Berube
James P. Kelly
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