



DIVISION OF
CORPORATION FINANCE

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

March 7, 2014

Via E-mail

Eduardo E. Cordeiro
Chief Financial Officer
Cabot Corporation
Two Seaport Lane
Boston, MA 02210-2019

**Re: Cabot Corporation
Form 10-K for the Fiscal Year Ended September 30, 2013
Filed November 27, 2013
Form 10-Q for the Period Ended December 31, 2013
Filed February 6, 2014
File No. 1-5667**

Dear Mr. Cordeiro:

We have reviewed your filing 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 or do not believe an amendment is appropriate, 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 Fiscal Year Ended September 30, 2013

Management's Discussion and Analysis..., page 32

Goodwill and Long-Lived Assets, page 34

1. You disclose on page 34 that your Purification Solutions business had goodwill of \$466 million as of September 30, 2013 and that the growth of this reporting unit is highly dependent on the growth in the mercury removal portion of this business. Please tell us if the estimated fair value of your Purification Solutions reporting unit substantially exceed the carrying value of this reporting unit as of your most recent goodwill impairment test.

2. As a related matter, if any of your reporting units are at risk of failing step one of the impairment test (e.g. reporting units have estimated fair values that are not substantially in excess of the carrying value), please revise your future filings to disclose the following:
- The percentage by which fair value exceeded carrying value as of the date of your most recent goodwill impairment test;
 - The amount of goodwill allocated to the reporting unit;
 - A description of the methods and key assumptions used and how the key assumptions were determined;
 - A discussion of the degree of uncertainty associated with the key assumptions. The discussion regarding uncertainty should provide specifics to the extent possible (e.g., the valuation model assumes recovery from a business downturn within a defined period of time); and
 - A description of potential events and/or changes in circumstances that could reasonably be expected to negatively affect the key assumptions.

If you have determined that the estimated fair value substantially exceeds the carrying value for all of your reporting units, please disclose this determination. Please refer to Item 303 of Regulation S-K and Sections 216 and 501.14 of the Financial Reporting Codification for guidance.

Reinforcement Materials, page 46

3. We note that the fiscal year 2013 decrease in Reinforcement Materials sales and EBIT were driven, in part, by lower prices, a less favorable product mix and lower volumes. Please show us how you will expand your disclosures in future filings to explain the underlying causes of lower prices, a less favorable product mix and lower volumes. Please also consider discussing EBIT as a percentage of sales. Please address this comment as it relates to all your segment sales and EBIT discussions.

Form 10-Q for the Period Ended December 31, 2013

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 32

Intangible Assets and Goodwill, page 33

4. In your January 30, 2014 earnings call discussing results for the first quarter of fiscal 2014, Mr. Prevost indicated that the Purification Solutions segment "experienced another difficult quarter due to lower volumes and operational issues." In addition, he indicated that as a result of these operational issues, the Company needed to "reposition expectations for the 2014 Purification Solutions EBITDA performance." Please tell us how you considered ASC 350-20-35-30 in determining the need for an interim goodwill impairment evaluation for the Purification Solutions reporting unit in light of these adjusted performance expectations.

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.

You may contact Lisa Etheredge, Staff Accountant, at (202) 551-3424 or Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691 if you have questions.

Sincerely,

/s/ John Cash

John Cash
Accounting Branch Chief