



DIVISION OF  
CORPORATION FINANCE

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

March 12, 2015

Via E-mail

Mr. Scott Crocco  
Senior Vice President and Chief Financial Officer  
Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard  
Allentown, PA 18195

**RE: Air Products and Chemicals, Inc.  
Form 10-K for the Year Ended September 30, 2014  
Filed November 24, 2014  
File No. 1-4534**

Dear Mr. Crocco:

We have reviewed your March 11, 2015 response to our comment letter 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the Year Ended September 30, 2014

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 19

Critical Accounting Policies and Estimates, page 39

Goodwill, page 41

1. We note your response to prior comment three from our letter dated February 26, 2015 and appreciate the additional information you provided; however, please address the following:
  - Tell us the number of operating segments in each reportable segment before and after the reorganization. If you aggregate operating segments after the reorganization, explain how you determined aggregation is appropriate; and

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- Your response indicates you had thirteen reporting units before and after the reorganization. Your response also indicates one instance in which one reporting unit before the reorganization was divided into three reporting units after the reorganization; therefore, it is not clear to us why the number of reporting units before and after the reorganization did not change. If you combined reporting units as a result of the reorganization, tell us the reporting units you combined, the amount of goodwill related to each such reporting unit, and your basis for combining them.
2. We note your response to prior comment four from our letter dated February 26, 2015 and appreciate the information you provided; however, please revise your proposed disclosures to provide some context for the changes in significant assumptions you intend to disclose and the related sensitivity analysis. Absent any additional context, it appears to us that disclosing changes in significant assumptions without disclosing the initial assumptions or indicating the magnitude of the changes relative to the initial assumptions would not provide investors with adequate information to fully understand the impairment charge you recorded or assess the likelihood of additional impairment charges.

You may contact Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or Anne McConnell, Staff Accountant, at (202) 551-3709 with any questions.

Sincerely,

/s/ John Cash

John Cash  
Accounting Branch Chief