



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4631

January 14, 2016

Via E-mail

Mary T. Afflerbach
Corporate Secretary and Chief Governance Officer
Air Products & Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, Pennsylvania 18195

**Re: Versum Materials, LLC.
Registration Statement on Form 10-12B
Filed December 18, 2015
File No. 0001-37664**

Dear Ms. Afflerbach:

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 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 and any amendment you may file in response to these comments, we may have additional comments.

Our Company, page 2

1. In the second paragraph you state that you are a “qualified supplier for [y]our customers....” Please clarify the meaning of the term “qualified supplier.”

Concentrated Customer Base—We are exposed to risks associated with a concentrated customer base., page 20

2. We note that three customers accounted for approximately 22 percent of Versum’s sales in fiscal 2015. Please confirm that these customers are Samsung, Taiwan Semiconductor Manufacturing Company and Intel. If not, to the extent that any customer accounts for sales equal to 10 percent or more of your consolidated revenue, please provide the

disclosure that Item 101(c)(vii) of Regulation S-K requires, or tell us how you determined that such disclosure is not required.

Unaudited Pro Forma Combined Financial Statements, page 47

3. We note that you have not completed your pro forma financial statements. We remind you that when you provide completed pro forma financial statements we will need sufficient time to review them and may have additional comments. We also remind you that you should disclose the nature and amount of each pro forma adjustment and provide sufficient information for a reader to understand how each adjustment is calculated.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 53

4. Please expand your discussion in this section to describe known trends and uncertainties that you reasonably expect will have a material impact on your business. For instance, we note your identification on page 3 of your information statement of secular growth trends, as well as your disclosure on page 79 of your information statement of an expectation of semiconductor market growth driven by mobile device sales. We also note that in Air Products' fiscal 2015 fourth quarter earnings call, Mr. Novo highlighted the impact that oil and gas trends will have on your Performance Materials segment. Yet, such identification and discussion are absent from your Management's Discussion and Analysis. Please revise accordingly. See Item 303 of Regulation S-K and SEC Release No. 33-8350.

Results of Operations, page 56

5. Please enhance MD&A to disclose and discuss the reasons for the changes in volume and price that impacted consolidated and segment sales during each period presented. Please also enhance MD&A to quantify and discuss gross profit margins during each period presented.
6. When multiple factors contribute to fluctuations in a single financial statement line item, please separately quantify the impact of each factor. You should also ensure that you are explaining the majority of increases or decreases in each line item. For example, it is unclear how significantly your cost of sales were impacted by lower production and supply chain costs and benefits of your cost reduction actions, offset by higher production costs from increased volume in 2015 as compared to 2014. This is not meant to be an all-inclusive list of where improvements could be made to quantify and expand your explanations. Please revise MD&A accordingly to separately quantify the reasons for fluctuations between all periods presented wherever possible.
7. Please enhance MD&A to disclose and discuss your restructuring and cost reduction actions during each period presented. Please specifically address the following:

- the nature of and reasons for each action;
- any anticipated or actual cost savings related to each action; and
- the nature and remaining carrying value of the assets that were impaired.

Liquidity and Capital Resources, page 63

8. Please enhance MD&A to address the following:
- the expected impact on future liquidity of the debt to be incurred to fund the cash distribution to Air Products upon the separation; and
 - the nature of and remaining expenditures related to the construction in progress.

Investing Activities, page 64

9. We note your capital expenditures increased substantially year-over-year for the past three years. Please provide your material commitments for capital expenditures as of the end of your fiscal year 2015 and the anticipated source of funds needed to fulfill such commitments. See Item 303(a)(2)(i) of Regulation S-K.

Business, page 71

10. Please provide the full disclosure of financial information about geographic areas that Item 101(d) of Regulation S-K requires. Please note that Item 101(d)(2) specifically allows for a cross reference to this information contained in the financial statements.

Severance, page 105

11. We note your disclosure that Mr. Novo participates in the Air Products Executive Separation Program and that your other executive officers participate in the Air Products Severance Plan. We also note your disclosures on pages 118 and 119 that the separation plans do not apply if the termination results from a spin-off and the executive remains employed by the spun-off unit. Please inform us of whether your executive officers received or you anticipate they will receive any remuneration under such arrangements, and if so, how you determined that reporting payment is not required pursuant to Item 402(c)(2)(ix)(D) of Regulation S-K.

2015 Pension Benefits, page 114

12. In the third sentence of the paragraph immediately following the pension benefits chart, we note your incorporation by reference of “a footnote in the financial statements” included in Air Products’ Form 10-K filed with the Securities and Exchange Commission on November 24, 2015. Please clearly identify the footnote you are incorporating by reference.

Cash Distribution, page 130

13. Please provide the approximate dollar value of the cash distribution Versum will make to Air Products. See Item 404(a)(3) of Regulation S-K.

Description of Our Capital Stock, page 137

14. Please provide the anticipated approximate number of holders of your common stock and preferred stock, respectively. See Item 201(b)(1) of Regulation S-K.

Financial Statements, page F-1

Combined Balance Sheets, page F-5

15. You disclose that you will make a cash distribution to Air Products prior to the separation, funded primarily by third-party indebtedness. As such, please reflect the intended dividend to Air Products on a pro forma basis alongside your most recent historical balance sheet as required by SAB Topic 1:B:3.

Note 2. Major Accounting Policies, page F-9

Revenue Recognition, page F-9

16. In regard to your use of percentage of completion accounting, please address the following:
- the nature of your equipment sales and your basis for determining that percentage of completion accounting is appropriate;
 - the magnitude of revenue you recognized using percentage of completion accounting during each period; and
 - the impact of changes in estimates and, if applicable, claims during each period.

Depreciation, page F-10

17. The range of useful lives for your machinery and equipment of five to twenty-five years is very broad. Please consider breaking out the machinery and equipment category into smaller components and disclose the range of useful lives for each revised category. For categories that still have very broad useful lives, please consider separately discussing the types of assets that fall in each part of the range and the weighted average useful life.

Air Products' Net Investment, page F-14

18. We note your disclosure on page F-9 that Air Products' debt and related interest expense have not been allocated to you for any period presented since you are not the legal obligor of the debt, and Air Products' borrowings were not directly attributable to you.

For each period presented, please present an analysis of your transactions with Air Products by providing a listing of the transactions, and, if applicable, average balances due to/from Air Products as required by SAB Topic 1:B:1 Question 4.

Note 4. Related Party Transactions, page F-16

19. Since agreements with related parties are by definition not at arm's length and may be changed at any time, please disclose, if practicable, management's estimate of what expenses would have been on a stand-alone basis for each period presented. If it is not practicable to provide such an estimate, please state that fact. Refer to SAB Topic 1:B.1.

Note 16. Business Segment and Geographic Information, page F-27

20. You disclose that you have three reportable segments: Electronic Materials, Performance Materials, and Corporate. It is unclear what your operating segments are and whether operating segments have been aggregated in your reportable segments. In this regard, we note your disclosure, beginning on page 76, of strategic business units within your Electronic Materials and Performance Materials segments. Please tell us and revise your disclosures to clarify what your operating segments are and whether operating segments have been aggregated in your reportable segments. See ASC 280-10-50-21.a. If you aggregate operating segments in one or more of your reportable segments, please also provide us the analysis you performed to determine the requirements of ASC 280-10-50-11 are met.
21. We note your references to product lines throughout the filing. You also disclose that your reporting units are primarily based on product lines within each business. As such, please tell us what consideration you gave to presenting the disclosures required by ASC 280-10-50-40 for each product and service or each group of similar products and services.

Note 17. Subsequent Events, page F-29

22. Please disclose the actual date through which subsequent events have been evaluated. Please also disclose whether that date is the date the financial statements were issued or the date the financial statements were available to be issued. Refer to ASC 855-10-50-1.

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:

Mary T. Afflerbach
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- 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 Jeff Gordon, Staff Accountant, at (202) 551-3866 or Anne McConnell, Staff Accountant, at (202) 551-3709 if you have questions regarding comments on the financial statements and related matters. Please contact Chris Ronne, Staff Attorney, at (202) 551-6156 or me at (202) 551-3397 with any other questions.

Sincerely,

/s/ Jay Ingram

Jay Ingram
Legal Branch Chief
Office of Manufacturing and
Construction

Cc: Via E-mail
C. Michael Chitwood, Esq.