



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

September 19, 2006

Mr. Robert M. Tarola
Senior Vice President and Chief Financial Officer, W.R. Grace & Co.
7500 Grace Drive
Columbia, MD 21044-4098

Re: W.R. Grace & Co.
Form 10-K for the fiscal year ended December 31, 2005
File No. 1-13953

Dear Mr. Tarola:

We have reviewed your response to our letter dated August 21, 2006 and have the following comments. We ask that you respond by October 3, 2006.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the fiscal year ended December 31, 2005

Proforma Financial Information, page F-56

1. We note your response to prior comment three and at this time we do not object to the inclusion of this information in your MD&A; however, we do have the following comments regarding the individual adjustments you have included in your filing:
 - You include a proforma adjustment which contemplates the establishment of a new \$1,000 million debt facility of which \$800 million relates to the plan of reorganization. Considering the status of the current reorganization plan, please tell us why you believe that this amount is factually supportable at this time. Additionally, you indicate that proforma expenses reflect a 7% interest rate associated with this debt. It is also not evident from your proforma adjustments where you have included this expense. According to Article 11 your debt financing adjustment should be based on the current interest rate or a rate for which you have a commitment. Additionally, if actual interest rates in the transaction can vary from those depicted, you should include disclosures of the effect on income of a 1/8 percent variance in interest rates.

- You include adjustments for the Fresenius and Sealed Air Settlements in your proforma information. Because these settlements have not taken place and will not be finalized until the bankruptcy is complete, it is not clear to us how you are able to conclude that these amounts are factually supportable at this time. Furthermore, you have indicated that the “Fresenius settlement amount will be payable directly to Grace and will be accounted for as income.” Please specifically tell us where you have included this amount in your pro forma income statement and why you believe this is not a contingent gain.
- We note that you have adjusted tax accounts to reflect the change in nature of your tax assets from predominantly temporary differences to predominantly time-limited net operating losses. The information you have provided does not allow a reader to recalculate the adjustment. Please provide additional information in a note to your proforma financial statements. Additionally, please tell us how this adjustment is directly attributable to the bankruptcy petition, factually supportable and expected to have a continuing impact.
- You include various adjustments to your proforma consolidated statement of operations. Please provide a more detailed explanation of these adjustments and tell us why you believe they are appropriate under the guidance of Article 11 of Regulation S-X. For example, please tell us how each of these adjustments are directly attributable to the bankruptcy petition, factually supportable and expected to have a continuing impact.
- Please tell us why you believe that the non-asbestos contingencies should be included as a proforma adjustment. Explain to us how these adjustments are directly attributable to the bankruptcy reorganization. We note that “the ultimate value of such claims may change materially as Chapter 11 and other legal proceedings further define [your] non-asbestos related obligations.” Based on this disclosure, it appears to us that your adjustments may not be factually supportable. If you can demonstrate that the adjustment is factually supportable, then, if there is a chance that the amounts could differ from what you have disclosed, we believe you should provide a footnote to your proforma financial statements indicating what the possible variances could be.

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. Please provide us with a supplemental response letter that keys your responses to our comments and provides any requested supplemental information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

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 all information required under the Securities and Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

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In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

If you have any questions regarding these comments, please direct them to Mindy Hooker, Staff Accountant, at (202) 551-3732, or to the undersigned at (202) 551-3768.

Sincerely,

John Cash
Branch Chief