



DIVISION OF
CORPORATION FINANCE

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

November 28, 2006

Room 7010

Louis S. Massimo
Executive Vice President and Chief Financial Officer
Arch Chemicals, Inc.
501 Meritt Seven
Norwalk, CT 06851

Re: Arch Chemicals, Inc.
Form 10-K for Fiscal Year Ended December 31, 2005
Form 10-Q for the Fiscal Quarter Ended March 31, 2006
Form 10-Q for the Fiscal Quarter Ended June 30, 2006
Form 10-Q for the Fiscal Quarter Ended September 30, 2006
File No. 001-14601

Dear Mr. Massimo:

We have reviewed your response letter dated November 14, 2006 and have the following comments. Where indicated, we think you should revise your document. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Form 10-K for the Year Ended December 31, 2005

1. Description of Business and Summary of Significant Accounting Policies, page 58

New Accounting Pronouncements, page 60

1. We note your response to prior comment 2 with regards to asset retirement obligations associated with certain owned or leased buildings and manufacturing facilities. Please revise future filings to disclose (a) a description of the obligation, (b) the fact that a liability has not been recognized because the fair value cannot be reasonably estimated, and (c) the reasons why fair value cannot be reasonably estimated as you have described in your response letter as required by paragraph 6 of FIN 47.

20. Commitments and Contingencies, page 91

2. We note your response to prior comment 5. However, we are not persuaded that you met the criteria for right of setoff per FIN 39 with respect to this case. Specifically, FIN 39 requires that each of *two* [emphasis added] parties owes the other determinable amounts. In this case, there were three parties involved – you, the insurance company, and the plaintiff. Further, the insurance company’s offer to take full control of the case and pay its coverage on your behalf does not meet the criteria for extinguishment of a liability in paragraph 16 of SFAS 140. In other words, insurance coverage does not *extinguish* loss contingencies you may have under asserted or unasserted claims against you, as the claimants have not released you. Instead, your insurance coverage effectively *reimburses* you for your costs.

Because we assume that you would have still been liable in the event of any financial difficulties experienced by your insurers, we believe investors should have had detailed information regarding the nature and extent of the loss exposures to which you were subject. However, because you settled this case in the third quarter of 2006, with no additional exposure, we have no further comment at this time. However, we remind you that in the future, your loss contingencies and your insurance recoveries should be evaluated separately for accounting and disclosure purposes.

22. Restructuring and Other (Gains) and Losses, page 95

3. We note your response to prior comment 10. However, we are not persuaded that the classification of the gain on the disposal of your equity method investment in operating income is appropriate. Because SFAS 144 specifically scopes out equity method investments, we do not believe it is not appropriate to analogize to SFAS 144. Instead, we believe that gains/losses and other charges/credits related specifically to equity method investments, should be classified in the same manner as the income from these investments. Accordingly, in future filings, please reclassify this gain on sale of Plannar Solutions to be a part of your income from equity method investments. Please also ensure that your future filings clearly disclose the nature and amount of the reclassification.

Forms 10-Q for the quarters ended March 31, 2006 and June 30, 2006

Item 1. Financial Statements, page 2

2. Share-Based Compensation, page 5

4. With respect to your response to prior comment 14, we note that you accounted for your SARs as variable awards under APB 25, prior to the adoption of SFAS 123(R). In particular, we note that you measured your SARs at intrinsic value under APB 25. However, it remains unclear why, upon adoption of SFAS 123(R), the intrinsic value of the SARs under APB 25 would equal the fair value of the SARs under SFAS 123(R), such that there would be no cumulative effect of a change in accounting principle. Please clarify why you believe the intrinsic value of your SARs equals their fair value. Specifically, please explain why there would be no time value associated with your SARs that would create a difference between their intrinsic value and their fair value. If you determine that there is a difference between the intrinsic value and the fair value of your SARs, please provide us with your materiality analysis of the amounts involved, based on the quantitative and qualitative factors pursuant SAB 99 for each quarter in 2006.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please submit all correspondence and supplemental materials on EDGAR as required by Rule 101 of Regulation S-T. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Melissa Rocha at (202) 551-3854 or me at (202) 551-3689 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

John Hartz
Senior Assistant Chief Accountant