



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-4631

July 14, 2009

*By U.S. mail and facsimile to (203) 229-3507*

Mr. Steven C. Giuliano, Chief Financial Officer  
Arch Chemicals, Inc.  
501 Merritt 7  
Norwalk, CT 06851

**RE: Arch Chemicals, Inc.  
Form 10-K for the fiscal year ended December 31, 2008  
Filed February 20, 2009  
Form 10-Q for the quarter ended March 31, 2009  
Schedule 14A Definite Proxy Statement Filed March 13, 2009  
File No. 1-14601**

Dear Mr. Giuliano:

We have reviewed your response letter dated June 1, 2009 and have the following additional comments. If you disagree, we will consider your explanation as to why our comment is inapplicable. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Form 10-K for the year ended December 31, 2008

Management's Discussion and Analysis, page 28

We have read your response to comments 5, 6 and 8 in our letter dated May 15, 2009. For comments 1-9 below, please provide us your proposed disclosure in a letter to us and ensure that these disclosures are included in the next Form 10-Q for the quarter ended June 30, 2009.

1. We previously cited the guidance in Sections 501.14, 501.12.b.4, and 501.02 of the Financial Reporting Codification regarding your disclosures about the events and circumstances which precipitated the \$24.6 million fourth quarter goodwill impairment. Absent the charge, 2008 fourth quarter net income would have been consistent with 2007 fourth quarter adjusted net income (excluding the \$7.4 million non-recurring tax benefit). The impact on annual 2008 net income was 40%. However, the 10-K contains only two sentences of disclosure that identifies causes of the impairment charge. Moreover, there is no substantive discussion about the implications of the impairment charge. Both the existing and proposed

disclosures cite only general, macro-economic factors with no specific explanation about the relevant impairment indicators such as changes in the industrial coatings market size and characteristics, changes in the economic and demographic characteristics of your customer base, changes in competitive factors, changes in management and/or business strategies, etc. Also, investors are not being informed that projected annual cash flows have been reduced from \$10 million to “slightly positive”. The materiality of such implications is self-evident in light of the \$45 million operating cash flows reported for 2008. Further, the basis for this dramatic change in estimate remains unclear given: (1) the impaired industrial coatings business generated 2008 cash flows that were consistent with your January 2008 projections; (2) the business has not lost any major customers or market share; (3) your market capitalization has substantially exceeded your equity balance in periods before and after the charge; (4) your 2008 SFAS 131 data and related segment disclosures report improved pricing and increased product demand in Eastern Europe for the industrial coatings business and do not clearly communicated indicators of impairment; (5) your disclosure to us that this business generated a 2008 fourth quarter operating profit and that the \$.5 million annual operating profit for this business in 2008 substantially exceeded the prior year's operating profit. Please review the guidance we have cited and provide disclosures that specifically address these issues.

2. Section 501.12.b.4 of the Financial Reporting Codification addresses the need to disclose the implications of material asset impairments. Since management is considering new strategies to maximize the value of the impaired business, then the existence of this uncertainty as well as the reasonably likely implications of such strategies should be disclosed i.e., potential restructuring and/or disposal charges, product pricing changes, new product introductions, capital requirements for geographic expansion or contraction, etc. Alternatively, if management has concluded that none of these strategies would be reasonably likely to have a material impact on interim or annual operating results and liquidity, then that fact should be disclosed. Absent such disclosure, investors cannot assess the prospects of the impaired business relative to the company's operating results and liquidity. The disclosure should also address management's plan to divest of its non-biocides businesses within five years
3. The critical accounting policy disclosure on page 48 of the 10-K states that management's “long-term terminal growth assumptions reflect our current long-term view of the marketplace”. However, these assumptions are not disclosed and accordingly it is not clear how management's long-term view of the marketplace changed between the first and fourth quarters of 2008. Further, if positive cash flows are projected in all future periods, it remains unclear why the \$24.6 million asset was deemed impaired given that the cash flow projections assume that the business will continue in perpetuity. It is not clear whether certain adverse business conditions (manufacturers in developing countries, etc) were deemed

- irreversible, and if so, the basis for this conclusion. Absent such disclosure, investors are required to speculate about management's critical accounting estimates and the factors considered in arriving at such estimates. As previously requested, please see the guidance in Section 501.14 of the Financial Reporting Codification.
4. As previously requested, please provide a disclosure that fully explains and quantifies the impact of changes in your 2008 fourth quarter SFAS 142 estimates relative to your 2008 first quarter SFAS 142 estimates. The revised assumption that the business would incur a substantial decline in near-term annual cash flows has implications regarding the Registrant's future liquidity and should be fully explained. Further, we now understand that the material changes in estimates include the discount rate, projected sales volume, and projected price increases. We also now understand that certain undefined "increased competitive pressures" had adversely impacted the industrial coatings business operating results since 2003, causing a 97% decline in annual operating income relative to 2007. We understand that there were other undefined "increased competitive activities" which occurred in the 2008 fourth quarter that caused management to significantly change its expectations concerning the impact of geographic expansion, new product introductions, and price increase on future operating results. Management's assumptions regarding foreign exchange rates and raw materials costs should also be explained. Also, the disclosure should quantify and explain the adverse trend in profitability since 2003 so that investors can understand the nature of the undefined competitive factors and so that the extent and duration of the associated adverse impact is transparent.
  5. Please disclose the accuracy of management's pre-2008 cash flow projections regarding the impaired business. See Section 501.14 of the Financial Reporting Codification.
  6. We note your conclusion that "The industrial coatings market...did not start to feel the impact of the deterioration of the global economy until mid-way through the fourth quarter". In future filings, please identify and explain the key market indicators that management uses to assess the economic condition of the industrial coatings market and other markets that materially impact your operating results. Any material changes in such known factors should be clearly disclosed in MD&A to provide investors with an understanding of management's view concerning relevant market conditions and the corresponding impacts on historical and prospective segment sales and earnings, and on the recoverability of long-lived assets. See Section 501.12.b.1 of the Financial Reporting Codification.
  7. Your response cites the risk factor on page 13 regarding the impact of the local furniture maker market on your coatings business. It does not appear that this text has been significantly revised or updated since 2005. Further, MD&A does not

- indicate whether operating results have been materially impacted by this risk in any of the periods presented. Consequently, the extent to which sales and profit margins have been impacted by a shift of customers and products to developing countries is unclear. Further, the impact of this shift on your historical and projected capital expenditures and on your impairment assessment of the industrial coatings goodwill asset is also unclear. In future filings, please disclose the extent to which the identified risks have materially impacted the operating results and liquidity of each segment. See Section 501.12.b.3 of the Financial Reporting Codification.
8. Please explain to us and revise future filings as appropriate to disclose the characteristics, factors, etc., unique to operating in Europe that have made the industrial coatings business more susceptible to impairment. It appears that the competitive pressures and market conditions which you describe in response to comment 6 would exist in other geographic areas. Disclose whether any of your other reporting units operates primarily in Europe. Please explain what you mean by “broader markets” in which your other reporting units compete.
  9. As previously requested, please clarify in the filing whether any of your “critical success factors” (page 29) materially impacted the determination that the industrial coatings business was impaired. This disclosure is necessary to an understanding of the extent to which the impairment was caused by factors within management’s control (responsive product offerings, cost containment, production efficiencies) or by factors beyond management’s control (shrinking market size, product and environmental regulatory costs, adverse exchange rates). See Section 501.12.b.4 of the Financial Reporting Codification.
  10. Your response states that for several years, the industrial coatings business has been adversely impacted by the contraction of the local furniture markets in several major European economies. We also note the related risk factor on page 13. Presumably a decline in market size can reasonably be expected to materially impact future operating results as well as the uncertainty regarding the recoverability of related assets. Similarly, a 97% decline in industrial coatings annual operating income since 2003 would appear to create a material uncertainty over the recoverability of associated goodwill. Accordingly, it is unclear how management could reasonably conclude that forewarning disclosure was not required pursuant to Sections 216 and 501.02 of the Financial Reporting Codification. Please note these requirements in future filings.

Form 10-Q for the quarter ended March 31, 2009

Liquidity, Investment Activity, Capital Resources and Other Financial Data, page 23

13. Commitments and Contingencies, page 15

11. We have read your response to comment 13. We understand that the .8 million Euro estimate is “the low end in the range of possible outcomes”. In future filings, please disclose the high end of the range pursuant to paragraph 10 of SFAS 5.
12. We have read your response to comment 15. It appears you do not intend to quantify the inventory and receivables turnover ratios in future filings. The accounts receivable turnover was 8.3, 9.4, and 10.1 at December 31, 2008, 2007, and 2006, respectively. The inventory turnover was 5.0, 5.5, and 5.8 at December 31, 2008, 2007, and 2006, respectively. The fact that these ratios have been slowly declining over the past three years appears to run counter to your indications that the turnovers have been consistent due to the seasonality of your HTH water products business. Seasonality does not fully explain why the March 31, 2009 ratio of receivables to quarterly sales is 63% whereas the March 31, 2008 ratio was 58%. Further, seasonality does not fully explain why the March 31, 2009 ratio of inventory to quarterly COGS is 123% whereas the March 31, 2008 ratio was 100%. Management's decision to maintain the same inventory level as at March 31, 2008, despite a 19% decrease in quarterly COGS, had an approximate \$47 million adverse impact on the reported \$33 million operating cash flow deficit. Further, it is not clear how much of the inventory build-up was caused by Advantis, and why that impact was not mitigated by the projected sales declines referenced in MD&A. Your belief that there has not been any deterioration in working capital that may adversely impact your future financial results does not preclude you from providing material liquidity data currently. Therefore, the previously requested disclosures are reiterated in their entirety. Please see Section 501.13.b.1 of the Financial Reporting Codification and Article 12-09 of Regulation S-X.

Definitive Proxy Statement on Schedule 14A Filed on March 13, 2009

Annual Incentive, page 26

13. We note your response with respect to our prior comment 21. If individual performance was a significant factor in determining compensation, your disclosure should identify the specific contributions and contextualize those achievements for purposes of demonstrating how they resulted in specific compensation decisions. Although quantitative targets for subjective or qualitative assessments may not be required, you should provide insight of how qualitative

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Arch Chemicals, Inc.  
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inputs are translated into objective pay determinations. See Item 402(b)(2)(vii) of Regulation S-K.

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

You may contact Jenn Do at (202) 551-3743, Al Pavot at (202) 551-3738 or me at (202) 551-3355 if you have questions regarding comments on the financial statements and related matters. Please contact Era Anagnosti at (202) 551-3369 or, in her absence, Andrew Schoeffler at (202) 551-3748, with any other questions.

Sincerely,

Terence O'Brien  
Branch Chief