

Via Facsimile and U.S. Mail
Mail Stop 6010

December 27, 2006

Mr. Klaus Kuhn
Chief Financial Officer
Member of the Board of Management
Bayerwerk, Gebaeud W11
Kaiser-Wilhelm-Allee
51368 Leverkusen
Germany

Re: Form 20-F for the Fiscal Year Ended December 31, 2005
Filed March 6, 2006
File No. 001-16829

Dear Mr. Kuhn:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. In our comments, we ask you to provide us with information so we may better understand your disclosure.

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 20-F filed March 6, 2006

Item 5. Operating and Financial Review and Prospects

Critical Accounting Policies, page 70

1. Your discussion of critical accounting policies does not explain how the identified estimates have affected your results of operations. Please provide to us disclosure for each policy that quantifies the effect that changes in your estimates have had in each period presented. Refer to Financial Reporting Release 72.

Intangible assets and property, plant and equipment, page 71

2. Please provide us with additional information, in disclosure-type format, that clarifies why you believe your hypothetical example of a 10% fluctuation in the present value of future cash flows related to your goodwill impairment calculation, as discussed herein and in Note 5 to your accompanying consolidated financial statements, is a scenario that management believes is reasonably likely to impact your reported results in future periods. Refer to Financial Reporting Release 72.

Research and development, page 72

3. We acknowledge your accounting policy with respect to research and development costs, as outlined herein and in Notes 4.3 and 5 to your accompanying consolidated financial statements. Please provide us with additional information, in a disclosure-type format, that clarifies the circumstances or criteria that management considers in determining when it is appropriate to capitalize a milestone payment made during the course of research and development activities. Please also correlate your accounting policy to IAS 38. Additionally, quantify the amounts and detail the underlying triggers related to such development milestones that you capitalized during the financial statement periods presented. In addition, since you do not identify an IAS to US GAAP reconciling item related to this policy, please tell us how your policy complies with US GAAP.
4. We acknowledge your revenue recognition policy as noted herein and within Notes 4.3 and 5 to your accompanying consolidated financial statements. We believe that your disclosure related to estimates of items that reduce your gross revenue, which you designate as “discounts” and “rebates to customers” could be defined and improved. Please provide us with the information that follows in a disclosure-type format.
 - a) Describe the type and amount of each item that reduces your gross revenue for the balance sheet dates presented. Additionally, please outline the effect that could result from using other reasonably likely assumptions than those upon which you currently rely in determining each estimate. For example, please disclose a range of reasonably likely amounts or another type of sensitivity analysis.
 - b) Expand your disclosure of the factors that you consider in estimating each item that reduces your gross revenue. Specifically, please address how you consider factors other than historical trends; for example, levels of

inventory in your distribution channels; estimated remaining product shelf lives; price changes from competitors; and introductions of new products.

- c) To the extent that the information you consider in b) is quantifiable, disclose both quantitative and qualitative factors and discuss the extent of availability and your use of information from external sources; for example, end-customer demand data compared to inventory levels. In discussing your estimate of product returns, consider disclosing (as applicable), preferably by product and in tabular format, the total amount of product in sales dollars that could potentially be returned as of the most recent balance sheet date, disaggregated by expiration period, if any
- d) If applicable, discuss any shipments made as a result of incentives and/or in excess of your customers' inventory levels in the ordinary course of business, in particular as they pertain to your rebate reserves and accruals and any wholesaler incentives, which are inherently affected by the underlying product sales volumes and growth. Please also discuss your revenue recognition policy for such shipments.
- e) Provide roll-forward information, as follows, separately for "discounts" and "rebates to customers" as of and for the financial statement periods presented:
 - the current provision related to sales made in the current period;
 - the current provision related to sales made in prior periods;
 - actual returns or credits in the current period related to sales made in the current period; and
 - actual returns or credits in the current period related to sales made in prior periods.
- f). Finally, include information regarding the amount of and reason for period to period fluctuations within your statement of operations separately for "discounts" and "rebates to customers" for the periods presented. Please also address the effect that changes in your estimates with respect to each of these items had on your revenues and operations for the applicable periods.

Operating Results 2003, 2004 and 2005

Introduction, page 75

Reconciliation from operating result to operating result before special items, page 77

5. We note that you present the non-GAAP measure "operating result before special items" as a consolidated indicator of your performance. The elimination of recurring items, that is, impairment charges, restructuring charges, and other

charges associated with legal proceedings and acquisition/disposition activities, from the most comparable GAAP measure appears to have the effect of smoothing earnings. While the acceptability of a non-GAAP financial measure that eliminates recurring items from the most comparable GAAP measure depends on all facts and circumstances, we do not believe that a non-GAAP measure that has the effect of smoothing earnings is appropriate. In addition, we note that the items you exclude have the following attributes:

- there is a past pattern of these items occurring in each reporting period;
- there is no unusual reason that you can substantiate to identify the special nature of these items;
- the financial impact of these items will not disappear or become immaterial in the future; and
- they are not a part of the EBITDA calculation that you use in disclosing the bonuses of the members of the Board of Management on page 115.

These attributes raise significant questions about management's assertions as to the usefulness of this measure for investors and the appropriateness of its presentation in accordance with Item 10 of Regulation S-K. Please refer to "Frequently Asked Questions Regarding the Use of Non-GAAP Financial Measures" on our website at www.sec.gov/divisions/corpfin/faqs/nongAAPfaq.htm that we issued on June 13, 2003. Please confirm to us that you will revise your future filings, beginning with your Form 20-F for the year ended December 31, 2006, to remove all references to these measures or tell us how your disclosure complies with Item 10 of Regulation S-K.

Discontinued Operations
Plasma Activities, page 82

6. You disclose that you include in your 2005 net earnings purchase price adjustments related to the divestiture of your U.S. plasma operations. Please quantify and describe the nature of each purchase price adjustment for us in disclosure type format.

Consolidated Statements of Cash Flows, page F-5

7. Please tell us why it is appropriate to provide a cash flow statement whereby you adjust "operating result" rather than income (loss) after taxes, that is, net income, in presenting net cash provided by operating activities for the financial statement periods presented. Please refer to IAS 7 in your response, giving consideration to paragraphs 18 and 20.

Notes to the Consolidated Financial Statements of the Bayer Group

Financial assets, page F-18

8. Please tell us how your policy whereby you recognize an equity instrument or security at amortized cost if no quoted market price exists complies with paragraph 46(c) of IAS 39. Please also refer to paragraphs AG 80 and 81 of IAS 39. In addition, since you do not identify an IAS to US GAAP reconciling item related to this policy, please tell us how your policy complies with US GAAP.

* * * *

Please provide us the information requested within 10 business days of the date of this letter or tell us when you will provide a response prior to the expiration of the 10-day period. Please furnish a letter with your responses that keys your responses to our comments. Detailed letters greatly facilitate our review. You should furnish the letter to us via EDGAR under the form type label CORRESP. 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 they have provided all information required under the Securities 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.

In connection with responding to our comments, please provide, in your letter, a statement from the company acknowledging that:

- 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.

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.

Mr. Klaus Kuhn
Bayer AG
December 27, 2006
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You may contact Amy Bruckner, Staff Accountant, at (202) 551-3657 or Mary Mast, Senior Accountant, at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. In this regard, please do not hesitate to contact me at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant