



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

July 14, 2008

VIA U.S. MAIL AND FAX (978) 715 -1385

Charles F. Wagner, Jr.
Chief Financial Officer
Millipore Corporation
290 Concord Road
Billerica, Massachusetts 01821

**Re: Millipore Corporation
Form 10-K for the year ended December 31, 2007
Filed February 28, 2008
File No. 001-09781**

Dear Mr. Wagner:

We have reviewed your filings and have the following comments. Where indicated, we think you should revise your document in response to these comments. 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.

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 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 year ended December 31, 2007

Critical Accounting Estimates, page 48

Income Taxes, page 82

1. We note on page 83 that you recorded \$13.6 million of previously unrecognized tax benefits as a result of the completion of tax examinations and lapse of statute of limitations. We also note on page 36 that the reversal of reserves related to uncertain tax positions upon the completion of the tax examinations contributed to the higher EPS. Please explain to us the facts and circumstances connected to the reversal of these reserves. Also, to help the readers of your financial statements understand your current estimates for uncertain tax position, consider revising your critical accounting policies in future filings to discuss in greater detail the nature of estimates and uncertainties about those estimates inherent to your income tax policy, including how you determine the estimates. You also might want to consider including a discussion about how different assumptions, methods or conditions could effect your financial statements.

12. Stock Plans and Stock-Based Compensation, page 83

Stock-based Compensation Expense, page 85

2. There does not appear to be any basis or context in U.S. GAAP for computing the per share effects of a form of compensation after the year of adoption of SFAS 123(R). Accordingly, in future filings please remove share-based compensation effects on earnings per share from the financial statements or explain to us why such presentation is appropriate.

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 cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and 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 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.

Charles F. Wagner, Jr.
Millipore Corporation
July 14, 2008
Page 3

In connection with responding to our comments, please provide, in writing, 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.

You may contact Andri Boerman, Staff Accountant, at (202) 551-3645 or me at (202) 551-3554 if you have any questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Angela Crane
Branch Chief