

Mail Stop 6010

May 22, 2008

David P. Luci, Esq.
President and Chief Business Officer
MacroChem Corporation
80 Broad Street, 22nd Floor
NY, NY 10004

**Re: MacroChem Corporation
Preliminary Proxy Statement on Schedule 14A
Filed May 15, 2008
File No. 0-13634**

Dear Mr. Luci:

This is to advise you that we have limited our review of the above referenced proxy statement to only the issues identified below.

Schedule 14A

1. We note your disclosure that you have no present plans to issue the additional authorized shares of common stock that will result if the proposal is approved by shareholders, other than issuances pursuant to your stock option plans and “in connection with equity financing activities.” Please revise your disclosure to specifically explain any plans you have in connection with your financing activities and your plans to issue the newly authorized shares resulting from the reverse stock split.

* * *

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. You may wish to provide us with a marked copy of the amendment to expedite our review. 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.

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.

Please contact Song Brandon at (202) 551-3621 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director