



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 7010

May 1, 2009

By U.S. Mail and Facsimile

Mr. Rakesh Sachdev  
Chief Financial Officer  
Sigma-Aldrich Corporation  
3050 Spruce Street  
St. Louis, Missouri 63103

**Re: Sigma-Aldrich Corporation**  
**Form 10-K for the Fiscal Year Ended December 31, 2008**  
**File No. 000-08135**

Dear Mr. Sachdev:

We have completed our review of your Form 10-K and related filings and have no further comments at this time.

If you have any further questions regarding our review of your filings, please direct them to Dale Welcome, Staff Accountant, at (202) 551-3865 or, in his absence, to the undersigned at (202) 551-3768.

Sincerely,

John Cash  
Accounting Branch Chief