



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