



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 7010

June 13, 2006

By U.S. Mail and Facsimile

Mr. Michael R. Hogan
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, 2005
Form 10-Q for the Fiscal Quarter Ended March 31, 2006
File No. 000-08135

Dear Mr. Hogan:

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