



DIVISION OF
CORPORATION FINANCE

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

September 21, 2015

Mail Stop 4631

Via E-mail

Tyler W. Painter
Chief Operating Officer and Chief Financial Officer
Solazyme, Inc.
225 Gateway Blvd.
South San Francisco, CA 94080

Re: Solazyme, Inc.
Form 10-Q for Fiscal Quarter Ended March 31, 2015
Filed May 8, 2015
Response Letter Dated August 13, 2015
File No. 1-35189

Dear Mr. Painter:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-Q for Fiscal Quarter Ended March 31, 2015

Note 11- Investments in Joint Ventures and Related Party Transactions, page 15

1. We have read your response to prior comment 5 in our letter to you dated July 29, 2015. Regarding the clause in section 4.9 of the joint venture contract with Bunge which states, *"It is the intention of the Parties that Solazyme consolidate the financial results of the Company and SB Oils with the financial results of Solazyme. The Parties each agree to provide reasonable accommodations to enable Solazyme to consolidate the financial results of the Company and SB Oils with the financial results of Solazyme to the extent allowable under United States generally accepted accounting principles ("U.S. GAAP")*," please tell us the purpose of the clause, the facts understood at the time of the

negotiation of the contract that were consistent with the clause, and the changes or differences between the facts understood at the time of negotiation and the facts supporting the accounting treatment.

2. We have read your response to prior comment 6. You state that you do not believe that previous delays in the production facility's construction and ramp-up have had a material impact on near-term operating results or long-term expectations of recoverability of the Company's investment in the Solazyme Bunge JV. Given that the joint venture incurred losses in fiscal years 2014 and 2013 of \$23 million and \$6.8 million, respectively, please provide us with a detailed qualitative and quantitative analysis which supports your conclusion that the delays, particularly due to issues with the recovery process, did not have a material impact on your operating results during these two periods.
3. Please clarify for us how commodity price variances have impacted the operating results and prospects of the joint venture. The correlation is not clear given the existing commodity price risk disclosure on page 68 of the 10-K.
4. Please significantly expand your disclosure to identify the specific things that will need to take place, and the timing thereof, in order for the joint venture to generate sufficient cash flows to enable a recovery of the investment.
5. Please provide us with the financial projections which support your position that the joint venture investment is not impaired. Include in your response the key assumptions supporting those projections, such as sales quantities and prices, etcetera, and quantify the change in future commodity prices necessary for you to recover your investment.

You may contact Tracie Mariner, Staff Accountant, at (202) 551-3744, or Alfred Pavot, Staff Accountant, at (202) 551-3738, if you have questions regarding comments on the financial statements and related matters. You may contact me at (202) 551-3355 with any other questions.

Sincerely,

/s/ Terence O'Brien

Terence O'Brien
Branch Chief
Office of Manufacturing and
Construction