



DIVISION OF
CORPORATION FINANCE

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

April 29, 2024

Neil Maresky
Chief Executive Officer
Pysence Biomedical Ltd.
21 Richmond Street West
Penthouse Suite 1300
Toronto, Ontario MK5 2K1

Re: Pysence Biomedical Ltd.
Amendment No. 1 to Registration Statement on Form F-1
Filed April 18, 2024
File No. 333-276973

Dear Neil Maresky:

We have reviewed your amended registration statement and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a comment applies 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 registration statement and the information you provide in response to this letter, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our February 23, 2024, letter.

Amendment No. 1 to Form F-1 filed April 18, 2024

Cover Page

1. We note your response to our prior comment 13 and we reissue in part. In addition to disclosing the potential profit per common share that may be earned by the holders of the Founder Shares and the Investors, please also disclose the total potential profit each selling securityholder would realize on an individual basis based on the current trading price of the common shares.

Risk Factors

Certain of the Selling Securityholders acquired their securities at a price that is less than..., page 39

2. We note the newly added disclosure on page 39 regarding two letters received from

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Nasdaq notifying the company that it is not in compliance with two Nasdaq listing rules. Please revise your disclosure to clarify how long the company has to regain compliance with these rules and whether the letters indicated next steps that may be taken in relation to the company's listing.

We may be subject to penalties under the Registration Rights Agreement.... page 41

3. Please revise the above newly included risk factor to quantify the potential total, as of the latest practicable date, of the outstanding principal amount of the First Tranche Notes, accrued but unpaid interest through acceleration, plus liquidated damages and other amounts owing in respect thereof through the date of acceleration, that would be due immediately and in cash should the company receive a notice of default from the Investors.

Unaudited Pro Forma Condensed Combined Financial Information

Note 6 - Net Earnings (Loss) Per Share, page 74

4. We note your response to our prior comment 12 and we reissue the comment. The table in Note 6 on page 74 sets out the share ownership of the company following closing on a pro forma basis and includes a line item for 2,000,000 shares held by "PIPE Investors". Because it appears that no PIPE was obtained in connection with the closing, please explain the inclusion of this line item.

Please contact Tamika Sheppard at 202-551-8346 or Laura Crotty at 202-551-7614 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Ben Reichel