



DIVISION OF
CORPORATION FINANCE

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

August 19, 2022

Paul Mann
Chairman, Chief Executive Officer and Chief Financial Officer
ASP Isotopes Inc.
433 Plaza Real, Suite 275
Boca Raton, Florida 33432

Re: ASP Isotopes Inc.
Amended Draft Registration Statement on Form S-1
Submitted August 12, 2022
CIK No. 0001921865

Dear Mr. Mann:

We have reviewed your amended draft registration statement 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 by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Amended Draft Registration Statement on Form S-1, submitted on August 12, 2022

Omnibus Klydon License, page 49

1. Please note whether there are any royalty payments under the terms of the Omnibus Klydon License Agreement and, if so, please note the royalty term and the royalty amount or range.

Indemnification Arrangements with Drs Ronander and Strydom, page 93

2. We note your revised disclosure that you are "aware of the possibility of a claim by the third party creditor related to this May 2012 agreement" but that "no such claim or litigation has been asserted or threatened" and that you "do not believe any payment obligation under our indemnification arrangements with Dr Ronander and Dr Strydom is

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currently probable." Please expand on this disclosure to briefly explain the nature of the potential claim by the third party creditor of which you are aware.

8. License Agreements, page F-13

3. You disclose that in July 2022 your subsidiary, ASP Isotopes UK Ltd has entered into a license agreement, referred to as the Klydon license agreement, to acquire certain intellectual property rights, and explain that this agreement superseded and replaced the Mo-100 license and U-235 license agreements entered into by your other subsidiary, ASP South Africa on September 30, 2021 and on January 25, 2022, respectively. Please disclose your accounting policy for such license terminations and explain how the policy was applied to the termination of your Mo-100 license and U-235 license agreements. Revise your MD&A to clearly disclose the accounting implications of the terminations and any related future impacts, if material.

You may contact Ibolya Ignat at 202-551-3636 or Kevin Kuhar at 202-551-3662 if you have questions regarding comments on the financial statements and related matters. Please contact Conlon Danberg at 202-551-4466 or Christopher Edwards at 202-551-6761 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Mr. Donald Ainscow, Esq.