



DIVISION OF
CORPORATION FINANCE

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

July 12, 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 June 27, 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 June 27, 2022

Risk Related to Regulatory Compliance

Our business is and could become subject to a wide variety of extensive and evolving laws and regulations. Failure to comply with such..., page 15

1. We note your revised disclosure in response to previous comment 6 and re-issue the comment in part. Please expand your disclosure to briefly explain the material licenses, approvals and permits you or Klydon have received in connection with the construction or operation of the Mo-100 enrichment facility in South Africa. In addition, please specify the conditions that are associated with such licenses, approvals and permits and, if material, discuss the risks that could cause such conditions to not be maintained.

Use of Proceeds, page 42

2. Please disclose the approximate amount intended to be used to initiate and fully fund Phase 2 of the Mo-100 development plan under the turnkey contract.

Letter of Intent for Klydon Shares or Assets, page 49

3. We note your revised disclosure in response to previous comment 12 and re-issue the comment in part. We refer to your disclosure that you "do not expect the timing or success of the Klydon acquisition to have a material effect on either our business or our financial results in the future because of the existing commercial agreements (including exclusive licenses) that we have with Klydon." Please expand on this disclosure to explain why your existing commercial agreements with Klydon would prevent the acquisition of Klydon from having a material effect on your business. In this regard, we note your statement on page 25 that you are "substantially dependent on the Turnkey Contract for the operation of [y]our company" because you do not yet have sufficient internal capabilities to perform the functions Klydon is providing under such agreement. Please discuss any material risks that would be associated with having to directly develop, manage and/or finance the services Klydon is providing under the existing commercial agreements in the event that you were to acquire Klydon.

Continue identifying potential offtake customers and strategic partners for Mo-100, page 59

4. We note your response to previous comment 18 regarding the name of the strategic advisor in China. Please expand on your disclosure to explain that you expect to enter into similar consulting and sales commission agreements with other individuals and entities in the future in the ordinary course of business.

Indemnification Arrangements with Drs Ronander and Strydom, page 90

5. We note your revised disclosure in response to previous comment 24 and re-issue the comment in part. Please describe any agreements that a third party entered into with Dr Einar, Dr Strydom, Klydon, and Isotope Separation Technology (Pty) Ltd. that would be covered by this indemnification agreement. Additionally, please disclose whether you are aware of any instituted or threatened claim, litigation or controversy which could be covered by the indemnification agreement. Finally, please disclose whether Klydon, Isotope Separation Technology (Pty) Ltd, or any other third party is providing indemnity against these claims as well.

Advisor Agreement with ChemBridges LLC, page 91

6. We note your revised disclosure in response to previous comment 34. Please revise your description of the Advisor Agreement with ChemBridges LLC to describe the termination provisions of such agreement.

You may contact Ibolya Ignat at 202-551-3636 or Kevin Kuhar at 202-551-3662 if you

Paul Mann
ASP Isotopes Inc.
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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.