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

FORM S-8 REGISTRATION STATEMENT **UNDER** THE SECURITIES ACT OF 1933

ASP Isotopes Inc.

	(E	Exact name of Registrant	as specified in its charter)	
	Delaware		87-2618235	
	(State or other jurisdiction of neorporation or organization)		(I.R.S. Employer Identification Number)	
	433 Plaza Real, Suite 275 Boca Raton, FL		33432	
(Addr	ess of Principal Executive Offices)		(Zip Code)	
		ASP Isotopes Inc. 2022 ASP Isotopes Inc. 2021 (Full Title o	Stock Incentive Plan	
	(Name, address, including	Paul E. Chairman and Chie ASP Isote 433 Plaza Re Boca Raton, I (561) 70 zip code, and telephone	f Executive Officer opes Inc. al, Suite 275 Florida 33432	
		Copie Brenda Har Hamilton & Associat 200 East Palmetto I Boca Rator (561)-41	nilton, Esq. tes Law Group, P.A. Park Rd, Suite 103 1, Fl 33432	
			ed filer, a non-accelerated filer, a smaller reporting company, or corting company" and "emerging growth company" in Rule 12b-2	
Large accelerated filer Non-accelerated filer			Accelerated filer Smaller reporting company Emerging growth company	
	any, indicate by check mark if the address d pursuant to Section 7(a)(2)(B) of		t to use the extended transition period for complying with any new	w or revised financial
	INFORMATI	PAR ION REQUIRED IN T	RT I HE SECTION 10(a) PROSPECTUS	
"Securities Act"), and the inst	tructions to Form S-8. In accordance	ce with the rules and regu	atement in accordance with Rule 428 of the Securities Act of 19 alations of the Securities and Exchange Commission (the "SEC") a ration Statement or as prospectuses or prospectus supplements put	and the instructions to
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PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this registration statement, and later information filed with the SEC will update and supersede this information. We hereby incorporate by reference into this registration statement the following documents previously filed with the SEC:

- (a) The prospectus filed by the Registrant with the SEC pursuant to Rule 424(b) under the Securities Act, on November 14, 2022, relating to the registration statement on Form S-1, as amended (No. 333-267392), which contains the Registrant's audited financial statements for the latest fiscal year for which such statements have been filed; and
- (b) The description of the Registrant's common stock contained in the Registrant's registration statement on Form 8-A (Registration No. 333-267392), filed by the Registrant with the SEC under Section 12(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), on November 9, 2022, including any amendments or reports filed for the purpose of updating such description.

All documents that the Registrant subsequently files pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act prior to the filing of a post-effective amendment to the registration statement which indicates that all of the shares of common stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of the filing of such documents; except as to any portion of any future annual or quarterly report to stockholders or document or current report furnished under current Items 2.02 or 7.01 of Form 8-K, and exhibits furnished on such form that relate to such items, that is not deemed filed under such provisions. For the purposes of this registration statement, any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

Under no circumstances will any information filed under current Items 2.02 or 7.01 of Form 8-K, and exhibits furnished on such form that relate to such items, be deemed incorporated herein by reference unless such Form 8-K expressly provides to the contrary.

Item 4. Description of Securities.

Not applicable.

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Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payment of dividends or unlawful stock purchases or redemptions, or (iv) for any transaction from which the director derived an improper personal benefit. Our amended and restated certificate of incorporation contains such a provision.

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation's board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act.

Our amended and restated certificate of incorporation and our amended and restated bylaws provide that we will indemnify our directors and officers to the fullest extent permitted under Delaware law. Our amended and restated bylaws also provide that we may indemnify a director, officer, employee or agent (including the advancement of expenses pending the final disposition of any action or proceeding).

We have entered into indemnification agreements with each of our current directors and executive officers and other employees, and may enter into indemnification agreements with future directors, executive officers and other employees, to provide such directors, officers and employees additional contractual assurances regarding the scope of the indemnification set forth in our amended and restated certificate of incorporation and our amended and restated bylaws and to provide additional procedural protections.

We may also purchase and maintain liability insurance on behalf of our directors, officers, employees and agents for any liability arising out of his or her actions in that capacity regardless of whether we would otherwise be permitted to indemnify him or her under Delaware law. We currently maintain a liability insurance policy pursuant to which our directors and officers may be indemnified against liability incurred as a result of serving in their capacities as directors and officers, subject to certain exclusions, including liabilities under the Securities Act.

The 2022 Plan provides, subject to certain limitations, for indemnification by us of any director, officer, or employee against all reasonable expenses, including attorneys' fees, incurred in connection with any legal action arising from such person's action or failure to act in administering the 2022 Plan.

Item 7. Exemption from Registration Claimed.

Not applicable.

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Item 8. Exhibits.

]	Exhibit			Incorporated by Reference					
1	Number	Exhibit Description	Form	File No.	Exhibit	Filing Date	Herewith		
	4.1	Certificate of Incorporation, as currently in effect.	S-1	333-267392	3.1	9/12/2022			
	4.2	Bylaws, as currently in effect.	S-1	333-267392	3.2	9/12/2022			

4.3	Form of Amended and Restated Certificate of Incorporation, to be in effect upon the closing of the Registrant's initial public offering.	S-1/A	333-267392	3.3	10/11/2022	
4.4	Form of Amended and Restated Bylaws, to be in effect upon the closing of the Registrant's initial public offering.	S-1/A	333-267392	3.4	10/11/2022	
5.1	Opinion of Hamilton & Associates Law Group, P.A.					X
23.1	Consent of EisnerAmper LLP, independent registered public accounting firm.					X
23.2	Consent of Opinion of Hamilton & Associates Law Group, P.A. (included in Exhibit 5.1).					X
24.1	Power of Attorney (included on the signature page of this Registration Statement).					X
99.1	ASP Isotopes Inc. 2021 Stock Incentive Plan, as amended, and form of stock option agreement thereunder.	S-1/A	333-267392	10.1	10/19/2022	
99.2	ASP Isotopes Inc. 2022 Equity Incentive Plan and form of award agreements thereunder.	S-1/A	333-267392	10.2	10/11/2022	
107	Calculation of Filing Fee Table					X

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Item 9. Undertakings.

- 1. The Registrant hereby undertakes:
 - (a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-8 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.

- (b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (d) That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
 - (i) Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

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- 2. The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- 3. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person

in connection	with the securities	being registered,	, the Registrant will	, unless in the o	opinion of its cor	unsel the matter	has been settled	by controlling p	recedent, submit	to a court
of appropriate	jurisdiction the o	question whether	such indemnificat	ion by it is ag	ainst public poli	icy as expressed	l in the Securitie	es Act and will	be governed by	the final
adjudication o	f such issue.									

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Boca Raton, Florida, on this 16th day of November, 2022.

ASP Is	otopes Inc.
By:	/s/ Paul E. Mann
	Paul E. Mann
	Chairman and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below does hereby constitute and appoint Paul E. Mann and Hendrik Strydom and each of them, with full power of substitution and full power to act without the other, his or her true and lawful attorney-in-fact and agent to act for him or her in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to file this registration statement, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in order to effectuate the same as fully, to all intents and purposes, as they or he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date		
/s/ Paul E. Mann Paul E. Mann	Chairman, Chief Executive Officer and Director (Principal Executive Officer)	November 16, 2022		
/s/ Robert Ainscow Robert Ainscow	Interim Chief Financial Officer (Principal Financial and Accounting Officer)	November 16, 2022		
/s/ Joshua Donfeld Joshua Donfeld	Director	November 16, 2022		
/s/ Duncan Moore, Ph.D. Duncan Moore, Ph.D.	Director	November 16, 2022		
/s/ Hendrik Strydom, Ph.D. Hendrik Strydom, Ph.D.	Director	November 16, 2022		
/s/ Sergey Vasnetsov Sergey Vasnetsov	Director	November 16, 2022		
/s/ Todd Wider, M.D. Todd Wider, M.D.	Director	November 16, 2022		
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Hamilton & Associates Law Group, P.A.

A Professional Association Attorneys and Counselors at Law 200 East Palmetto Park Road, Suite 103 Boca Raton, Florida 33432 Telephone:561-416-8956 Facsimile: 561-416-2855

Email: info@securitieslawyer101.com Firm Website: www.securitieslawyer101.com

November 16, 2022

ASP Isotopes Inc. 433 Plaza Real, Suite 275 Boca Raton, Florida 33432

Ladies and Gentlemen:

We have acted as legal counsel for ASP Isotopes Inc., a Delaware corporation (the "<u>Company</u>"), in connection with a Registration Statement on Form S-8 (the "<u>Registration Statement</u>") under the Securities Act of 1933, as amended (the "<u>Securities Act</u>"), for the registration of an aggregate of 11,101,000 shares of common stock, \$0.01 par value, of the Company (the "<u>Common Stock</u>"), including (i) 2,901,000 shares of Common Stock (the "<u>2021 Shares</u>") pursuant to the Company's 2021 Stock Incentive Plan, as amended (the "<u>2021 Plan</u>"), and (ii) 8,200,000 shares of Common Stock (the "<u>2022 Shares</u>" and together with the 2021 Shares, the "<u>Shares</u>") pursuant to the Company's 2022 Equity Incentive Plan (the "<u>2022 Plan</u>" and together with the 2021 Plan, the "<u>Plans</u>").

In connection herewith, we have examined and relied without independent investigation as to matters of fact upon such certificates of public officials, such statements and certificates of officers of the Company and originals or copies certified to our satisfaction of the Registration Statement, the Plans, the Certificate of Incorporation of the Company, and the Bylaws of the Company as currently in effect and minutes of all pertinent meetings and actions of the Board of Directors of the Company.

In rendering this opinion, we have assumed the genuineness of all signatures on all documents examined by us, the due authority of the parties signing such documents, the authenticity of all documents submitted to us as originals, the conformity to the originals of all documents submitted to us as copies and that the offer and sale of the Shares complies in all respects with the terms, conditions and restrictions set forth in the Registration Statement and the Plans. The Company has represented to us and we have also assumed that the Company has reserved from its duly authorized capital stock a sufficient number of shares of common stock for issuance under the Plans. We have also assumed that it will at all times reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved common stock, solely for the purpose of enabling it to issue the Shares in accordance with the Plans, as applicable, the number of Shares which are then issuable and deliverable upon the settlement of awards under the Plans

We do not express any opinion herein concerning any law other than the laws of the Delaware General Corporation Law and the federal law of the United States. No opinion is expressed herein with respect to the qualification of the Shares under the securities or blue sky laws of any state or any foreign jurisdiction.

This opinion speaks only at and as of its date and is based solely on the facts and circumstances known to us and as of such date. In addition, in rendering this opinion, we assume no obligation to revise, update or supplement this opinion (i) should the present aforementioned laws be changed by legislative action, judicial decision or otherwise, or (ii) to reflect any facts or circumstances which may hereafter come to our attention.

Based upon, subject to and limited by the foregoing, we are of the opinion and so advise you that the issuance of the Shares has been duly authorized and, when issued, delivered and fully paid for in accordance with the terms of the Registration Statement and the Plans and pursuant to the agreements that accompany the Plans, such Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Brenda Hamilton

Brenda Hamilton

Hamilton & Associates Law Group, P.A.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement of ASP Isotopes Inc. on Form S-8 (No. 333-267392) to be filed on or about November 16, 2022 of our report dated April 21, 2022, on our audit of the financial statements as of December 31, 2021 and for the period from September 13, 2021 (inception) through December 31, 2021, which report was included in the Form S-1 filed April 21, 2022. Our report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern.

/s/ EisnerAmper LLP

EISNERAMPER LLP Iselin, NJ November 16, 2022

CALCULATION OF FILING FEE TABLE

Form S-8 (Form Type)

ASP Isotopes Inc.

(Exact name of registrant as specified in its charter)

Table 1: Newly Registered Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share		Proposed Maximum Aggregate Offering Price		ximum gregate fering Fee		Amount of egistration Fee
Equity	Common stock, \$0.01 par value per share	Rule 457(c) and Rule 457(h)	8,200,000 shares(2)	\$	2.76(3)	\$	22,632,000	\$110.20 per \$1,000,000	\$	2,494.05
Equity	Common stock, \$0.01 par value per share	Rule 457(h)	2,901,000 shares(4)	\$	1.91(5)	\$	5,540,910	\$110.20 per \$1,000,000	\$	610.61
	Total Offering Amou	nts					\$38,340,910		\$	3,104.65
	Total Fee Offsets (6)								\$	0
	Net Fee Due								\$	3,104.65

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also registers an indeterminate number of additional shares that may be issued pursuant to the above-named plans as the result of any future stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration which results in an increase in the number of our outstanding shares of common stock.
- (2) Represents 8,200,000 shares of common stock issuable under the ASP Isotopes Inc. 2022 Incentive Award Plan (the "2022 Plan"), which number consists of (a) 5,000,000 shares of common stock initially available for future grants under the 2022 Plan, and (b) up to an additional 3,200,000 shares of common stock that may become issuable under the 2022 Plan pursuant to its terms. To the extent outstanding awards under the 2022 Plan are forfeited or lapse unexercised, the shares of common stock subject to such awards will be available for future issuance under the 2022 Plan.
- (3) This estimate is made pursuant to Rule 457 of the Securities Act solely for purposes of calculating the registration fee. The computation is based upon the average high and low prices of the registrant's common stock on November 15, 2022, as reported on the NASDAQ Capital Market
- (4) Represents 2,901,000 shares of common stock subject to outstanding options under the ASP Isotopes Inc. 2021 Stock Incentive Plan (the "2021 Plan"). No additional stock awards will be granted under the 2021 Plan.
- (5) This estimate is made pursuant to Rule 457 of the Securities Act solely for purposes of calculating the registration fee. The Proposed Maximum Offering Price Per Share is \$1.91 per share, which is the weighted average exercise price of outstanding options granted under the 2021 Plan being registered.
- (6) The registrant does not have any fee offsets.