

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): September 30, 2025

ASP Isotopes Inc.

(Exact name of registrant as specified in its charter)

<u>Delaware</u> (State or other jurisdiction of incorporation)	<u>001-41555</u> (Commission File Number)	<u>87-2618235</u> (IRS Employer Identification No.)
<u>601 Pennsylvania Avenue NW, South Building, Suite 900 Washington, DC</u> (Address of principal executive offices)		<u>20004</u> (Zip Code)

Registrant's telephone number, including area code: (202) 756-2245

Not Applicable

(Former name or former address, if changed since last report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.01	ASPI	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act ☐

Item 7.01. Regulation FD Disclosure.

On September 30, 2025, ASP Isotopes Inc. (the “Company”) issued a press release announcing a purchase order for enriched Barium-137 from a U.S.-based customer. A copy of the press release is attached to this Current Report on Form 8-K as Exhibit 99.1 and is incorporated herein by reference.

The information in this Item 7.01, including Exhibit 99.1, shall not be deemed to be “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liability of that section, and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Item 9.01. Financial Statements and Exhibits.

Exhibit No.	Description
99.1	Press Release, dated September 30, 2025, of ASP Isotopes Inc. announcing a purchase order for enriched Barium-137 from a U.S.-based customer.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ASP ISOTOPES INC.

Date: September 30, 2025

By: /s/ Donald G. Ainscow

Name: Donald G. Ainscow

Title: Executive Vice President,
General Counsel and Secretary



ASP Isotopes Announces Purchase Order for Enriched Barium-137 from a U.S.-Based Customer

Washington, D.C., September 30, 2025 (GLOBE NEWSWIRE) -- ASP Isotopes Inc. NASDAQ: ASPI ("ASP Isotopes" or the "Company"), an advanced materials company dedicated to the development of technology and processes for the production of isotopes for use in multiple industries, today announced that it has received a purchase order from a U.S.-based customer for the supply of enriched Barium-137, with a delivery date during Q1 2026.

Enriched Barium-137: Unlocking Scalable Quantum Computing

The use of high-purity Barium-137 is emerging as a critical enabler of ion-trap quantum computing, one of the leading approaches to building large-scale quantum machines.

By providing a stable and uniform qubit platform, enriched Barium-137 allows for more reliable operation of quantum processors and reduces the complexity of control systems. This improved consistency is essential for scaling from today's small research systems to tomorrow's fault-tolerant quantum computers capable of solving real-world problems.

In addition, Barium-137's favourable optical properties—operating in accessible visible-light wavelengths—make it easier to integrate with existing hardware and support future developments in quantum networking and modular architectures, where multiple processors are linked together to create more powerful systems.

As demand for larger, commercially viable quantum computers accelerates across industries, enriched Barium-137 is expected to become a cornerstone material, helping to bridge the gap between laboratory demonstrations and practical, scalable technologies.

Robert Ainscow, Interim CEO of ASP Isotopes, commented:

"This purchase order for enriched Barium-137 is an important achievement in our strategy to establish ASP Isotopes as a leading supplier of advanced materials to the quantum computing industry. We anticipate growing demand from customers as enriched Barium-137 has the potential to be transformative in enabling scalable architectures. We believe we have the ability to reliably produce and deliver multiple industrial isotopes, such as Barium-137 and Silicon-28. We are excited about the role ASP Isotopes can play in supporting cutting-edge technologies and advancing quantum computing from the laboratory into real-world commercial applications."

Viktor Petkov, Chief Commercial Officer of ASP Isotopes, added:

"This purchase order for enriched Barium-137 is a testament to how our products align with ASP Isotopes' broader multi-isotope, multi-use, multi-customer electronic gases strategy. This sector is rapidly evolving into one of the most dynamic and significant growth markets in advanced materials. Demand for isotopically pure gases and materials now spans quantum computing, semiconductors, AI capability, data center construction and a wide range of other high-technology applications. By positioning ourselves at the centre of this expanding supply chain, ASP Isotopes is building a scalable business model capable of serving multiple industries while supporting the breakthrough technologies that will shape the future."

About ASP Isotopes Inc.

ASP Isotopes Inc. is a development stage advanced materials company dedicated to the development of technology and processes to produce isotopes for use in multiple industries. The Company employs proprietary technology, the Aerodynamic Separation Process ("ASP technology"). The Company's initial focus is on producing and commercializing highly enriched isotopes for the healthcare and technology industries. The Company also plans to enrich isotopes for the nuclear energy sector using Quantum Enrichment technology that the Company is developing. The Company has isotope enrichment facilities in Pretoria, South Africa, dedicated to the enrichment of isotopes of elements with a low atomic mass (light isotopes).

There is a growing demand for isotopes such as Silicon-28, which will enable quantum computing, and Molybdenum-100, Molybdenum-98, Zinc-68, Ytterbium-176, and Nickel-64 for new, emerging healthcare applications, as well as Chlorine-37, Lithium-6, and Uranium-235 for green energy applications. We believe the ASP technology (Aerodynamic Separation Process) is ideal for enriching low and heavy atomic mass molecules. For more information, please visit www.aspisotopes.com.

Forward Looking Statements

This press release contains “forward-looking statements” within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations, and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy, and other future conditions. Forward-looking statements can be identified by words such as “believes,” “plans,” “anticipates,” “expects,” “estimates,” “projects,” “will,” “may,” “might,” and words of a similar nature. Examples of forward-looking statements include, among others but are not limited to, the commencement of supply of isotopes to customers, the construction of additional enrichment facilities, and statements we make regarding expected operating results, such as future revenues and prospects from the potential commercialization of isotopes, future performance under contracts, and our strategies for product development, engaging with potential customers, market position, and financial results. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks, and changes in circumstances that are difficult to predict, many of which are outside our control. Our actual results, financial condition, and events may differ materially from those indicated in the forward-looking statements based upon a number of factors. Forward-looking statements are not a guarantee of future performance or developments. You are strongly cautioned that reliance on any forward-looking statements involves known and unknown risks and uncertainties. Therefore, you should not rely on any of these forward-looking statements. There are many important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements, including, but not limited to: the failure to obtain necessary regulatory and shareholder approvals for the proposed acquisition of Renergen; disruption from the proposed acquisition of Renergen making it more difficult to maintain business and operational relationships; significant transaction costs and unknown liabilities related to the proposed acquisition of Renergen; litigation or regulatory actions related to the proposed acquisition of Renergen; the outcomes of various strategies and projects undertaken by the Company; the potential impact of laws or government regulations or policies in South Africa, the United Kingdom or elsewhere; our reliance on the efforts of third parties; our future capital requirements and sources and uses of cash; our ability to obtain funding for our operations and future growth; our reliance on the efforts of third parties; our ability to complete the construction and commissioning of our enrichment plants or to commercialize isotopes using the ASP technology or the Quantum Enrichment Process; our ability to obtain regulatory approvals for the production and distribution of isotopes; the financial terms of any current and future commercial arrangements; our ability to complete certain transactions and realize anticipated benefits from acquisitions and contracts; dependence on our Intellectual Property (IP) rights, certain IP rights of third parties; the competitive nature of our industry; and the factors disclosed in Part I, Item 1A. “Risk Factors” of the company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2024 and any amendments thereto and in the company’s subsequent reports and filings with the U.S. Securities and Exchange Commission. Any forward-looking statement made by us in this press release is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future developments or otherwise. This press release includes market and industry data and forecasts that we obtained from internal research, publicly available information and industry publications and surveys. Industry publications and surveys generally state that the information contained therein has been obtained from sources believed to be reliable. Unless otherwise noted, statements as to our potential market position relative to other companies are approximated and based on third-party data and internal analysis and estimates as of the date of this press release. We have not independently verified this information, and it could prove inaccurate. Industry and market data could be wrong because of the method by which sources obtained their data and because information cannot always be verified with certainty due to the limits on the availability and reliability of raw data, the voluntary nature of the data-gathering process and other limitations and uncertainties. In addition, we do not know all of the assumptions regarding general economic conditions or growth that were used in preparing the information and forecasts from sources cited herein. No information in this press release should be interpreted as an indication of future success, revenues, results of operation, or stock price. All forward-looking statements herein are qualified by reference to the cautionary statements set forth herein and should not be relied upon.

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