

N/A

(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))

Item 1.01

Entry into a Material Definitive Agreement.

The disclosure in Item 3.02 below is incorporated into this Item 1.01 by reference.

Item 3.02

Unregistered Sales of Equity Securities.

On February 24, 2010, International Isotopes Inc. (the Company) entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with certain institutional and private purchasers (the "Investors") pursuant to which it sold to the Investors convertible debentures (the "Debentures") for an aggregate of \$3,075,000.

The Debentures accrue a fixed sum of interest equal to 6% of the principal amount automatically upon issuance and mature on August 24, 2011. The Debentures are convertible at the option of the Investors into shares of the Company's common stock, par value \$0.01 per share ("Common Stock") or any other class of equity securities issued by the Company ("Other Equity Securities") for financing purposes after issuance of the Debentures, at an initial conversion price equal to \$0.35, with respect to that portion of the Debenture converted into Common Stock, and the per share subscription price of any Other Equity Securities as set forth in the definitive transaction documents for the applicable equity financing transaction, with respect to that portion of the Debenture converted into Other Equity Securities, subject to adjustment as set forth in the Debentures. Upon maturity, the outstanding principal amount of the Debentures and all accrued but unpaid interest will be converted into Common Stock at a conversion price equal to the lesser of \$0.35 and the average closing price of the Common Stock for the 120 consecutive trading days up to, but not including, the maturity date, subject to adjustment as set forth in the Debentures.

To the extent any of the Debentures are outstanding as of the maturity date and are automatically converted pursuant to the terms of the Debentures, then Investors holding such Debentures will also receive warrants ("Class H Warrants") to purchase the number of shares of Common Stock equal to one half of the number of shares of Common Stock issued upon automatic conversion of the Debenture, at a per share exercise price equal to the lower of \$.60 and 120% of the average closing price of the Common Stock for the 120 consecutive trading days up to, but not including, the maturity date. The Class H Warrants will be for a term of 4 years. The exercise price will be subject to customary adjustments as set forth in the Class H Warrants.

The Debentures contain, and each Class H Warrant that may be issued upon automatic conversion of the Debentures will contain, provisions limiting exercise in the event that the holder's beneficial ownership of the Company's Common Stock would exceed 9.99%.

The Securities Purchase Agreement provides the Investors with certain registration rights if an Investor is unable, at any time following the six-month holding period provided in Rule 144, to sell its Common Stock and underlying securities pursuant to Rule 144. Upon the demand by the Investors, the Company is required to register all of the Common Stock issued and the underlying securities sold to the Investors within 45 days from such demand. The registration must be effective 120 days after the date of such demand. The Company must pay the Investors a monthly amount equal to 1% of the greater of the aggregate purchase price paid by the Investors or the market value of the shares then outstanding if the registration is not filed or does not become effective on time, or upon the occurrence of certain events described in the Securities Purchase Agreement. The registration rights provisions contain customary indemnification and contribution provisions.

The Securities Purchase Agreement, a form of the Debenture, and a form of Class H Warrant are filed herewith as Exhibits 2.1, 4.1 and 4.2, respectively, and all descriptions of such documents included herein are qualified in their entirety by reference to such documents.

The securities sold in the transactions discussed above were sold in reliance on Section 4(2) of the Securities Act of 1933, as amended (the Act) and Regulation D thereunder. Each Investor represented that it was an accredited investor within the meaning of the Act and had reviewed all information about the Company necessary to make an informed investment decision.

The transaction documents have been included to provide you with information regarding their terms. The transaction documents contain representations and warranties made by the parties to each other. The assertions embodied in those representations and warranties are qualified by information in confidential disclosure schedules that the parties have exchanged in connection with signing the transaction documents. While the Company does not believe that the disclosure schedules contain information that it is required to disclose pursuant to applicable securities laws, other than information that has already been publicly disclosed, the disclosure schedules do contain information that modifies, qualifies and creates exceptions to the representations and warranties set forth in the attached transaction documents. Accordingly, you should not rely on the representations and warranties as characterizations of the actual state of facts, since they are modified in important part by the underlying disclosure schedules. These disclosure schedules contain information that has been included in the Company's general prior public disclosures, as well as potential additional non-public information. Moreover, information concerning the subject matter of the representations and warranties may have changed since the date of the transaction documents, which subsequent information may or may not be fully reflected in the Company's public disclosures.

Item 8.01

Other Events.

On February 24, 2010, the Company issued a press release regarding the financing described above. A copy of this press release is attached as Exhibit 99.1

9.01

Financial Statements and Exhibits

(d) Exhibits

2.1

Securities Purchase Agreement dated February 24, 2010*

4.1

Form of Debenture

4.2

Form of Class H Warrant

99.1

Press Release

* Schedules and similar attachments to the Securities Purchase Agreement have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Registrant will furnish supplementally a copy of any omitted schedule or similar attachment to the Securities and Exchange Commission upon request.

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.

International Isotopes, Inc.

Date: February 25, 2010

By: /s/ Steve T. Laflin
Steve T. Laflin
President and Chief Executive
Officer

EXHIBIT INDEX

Exhibit Number	Description of Document
2.1	Securities Purchase Agreement dated February 24, 2010*
4.1	Form of Debenture
4.2	Form of Class H Warrant
99.1	Press Release

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