

INTERNATIONAL ISOTOPES INC  
Form S-3/A  
June 24, 2010

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As filed with the Securities and Exchange Commission on June 24, 2010.

Registration No. 333-167566

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

AMENDMENT NO. 1 TO

## FORM S-3

REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

# **INTERNATIONAL ISOTOPES INC.**

(Exact name of registrant as specified in its charter)

**Texas**

(State or other jurisdiction of incorporation or  
organization)

**74-2763837**

(I.R.S. Employer Identification Number)

**4137 Commerce Circle  
Idaho Falls, Idaho 83401  
(208) 524-5300**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Steve T. Laflin  
President and Chief Executive Officer  
International Isotopes Inc.  
4137 Commerce Circle  
Idaho Falls, Idaho 83401  
(208) 524-5300**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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***Copies to:***

**Sonny Allison  
Perkins Coie LLP  
1899 Wynkoop Street, Suite 700  
Denver, CO 80202**

**(303) 291-2300**

**Approximate date of commencement of proposed sale to the public:** From time to time after this Registration Statement becomes effective as determined by market conditions and other factors.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. [  ]

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. [X]

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [  ]

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [  ]

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act of 1933, check the following box. [  ]

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act of 1933, check the following box. [  ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer [  ]    Accelerated filer [  ]    Non-accelerated filer [  ]    Smaller reporting company [X]  
(Do not check if a smaller reporting company)

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CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to Be Registered (3)	Amount to Be Registered (1)	Proposed Maximum Offering Price Per Unit (1)	Proposed Maximum Aggregate Offering Price (1)
Common stock, par value \$0.01			
Preferred stock, par value \$0.01			
Debt securities			
Convertible debt securities			
Warrants			
Total			\$100,000,000

- (1) No additional securities are being registered and registration fees were paid upon filing of the original Form S-3 Registration Statement with the Securities and Exchange Commission on June 16, 2010 (Registration No. 333-167566). Therefore, no further registration fee is required.

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**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

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**EXPLANATORY NOTE**

The Registrant's Form S-3 Registration Statement filed with the Securities and Exchange Commission on June 16, 2010 (Registration No. 333-167566) (the "Registration Statement") is hereby amended to reflect that the securities being registered pursuant to the Registration Statement are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 by checking the proper box on the cover page, and to remove the inadvertently checked box on the cover page of the Registration Statement with respect to filings for additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933. Due to an error in the original edgarization process, the checked boxes were inadvertently switched. Except as described herein, there are no changes to the Registration Statement.

**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-3 and has duly caused this amendment to registration statement to be signed on its behalf by the undersigned, there under duly authorized, in the City of Idaho Falls, State of Idaho, on the 24th day of June, 2010.

**International Isotopes Inc.**

/s/ Laurie A McKenzie-Carter  
 By: Laurie A McKenzie-Carter  
 Chief Financial Officer

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 dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
* Ralph M. Richart	Chairman of the Board	June 24, 2010
* Steve T. Laflin	Director, President, and Chief Executive Officer (Principal Executive Officer)	June 24, 2010
/s/ Laurie A. McKenzie-Carter Laurie A. McKenzie-Carter	Chief Financial Officer (Principal Finance and Accounting Officer)	June 24, 2010

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Director

June 24, 2010

Christopher Grosso

/s/ Laurie A. McKenzie-Carter

Laurie A. McKenzie-Carter

Attorney-in-fact

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