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): April 2, 2014

CRYOLIFE, INC.

(Exact name of registrant as specified in its charter)

Florida (State or Other Jurisdiction of Incorporation) 1-13165 (Commission File Number) 59-2417093 (IRS Employer Identification No.)

1655 Roberts Boulevard, N.W., Kennesaw, Georgia 30144 (Address of principal executive office) (zip code)

Registrant's telephone number, including area code: (770) 419-3355

(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 (see General Instruction A.2. below):

□ 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))

D Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Section 1 Registrant's Business and Operations

Item 1.01 Entry into a Material Definitive Agreement.

On April 2, 2014 (the "Effective Date"), CryoLife, Inc. ("CryoLife" or the "Company") and certain of its subsidiaries amended CryoLife's Amended and Restated Credit Agreement, dated October 28, 2011, with General Electric Capital Corporation ("GE"), as lender, swingline lender, letter of credit issuer, and agent for all lenders, as amended (the "Credit Agreement"). The Fourth Amendment to the Credit Agreement (the "Fourth Amendment") increased to \$14 million the maximum amount (the "Maximum") that the Company may spend, through the Credit Agreement termination date (October 28, 2014), to purchase or redeem common stock of the Company pursuant to a stock repurchase program. The Amendment effectively increases the amount the Company may spend to repurchase stock, because prior to the amendment, the Company could effectively repurchase stock of only \$8.75 million. The \$14 million Maximum is sufficient to cover the remaining amount under the stock repurchase program approved by the Company's board of directors in February 2013, approximately \$13.5 million.

As of April 2, 2014, there were no amounts outstanding under the Credit Agreement. The other material terms of the Credit Agreement remain unchanged.

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SIGNATURES

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

Date: April 8, 2014

CRYOLIFE, INC.

By: /s/ D.A. Lee

Name: D. Ashley Lee

Title: Executive Vice President, Chief Operating Officer and Chief Financial Officer

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