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 20, 2010

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))

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

Section 8 Other Events

Item 8.01 Other Events.

On September 20, 2010, the United States District Court, Northern District of Georgia, Atlanta Division, issued an order denying CryoLife's request for a preliminary injunction against Medafor, Inc. Although the order denies the preliminary injunction, it does not address the merits of the parties' respective positions on the underlying issues, which the court views as more appropriately addressed after discovery and at summary judgment. As of the date of this filing, CryoLife has not received any communication from Medafor regarding this order. A copy of the order is attached as Exhibit 99.1 hereto.

Section 9 Financial Statements and Exhibits

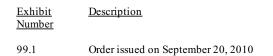
Item 9.01(d) Exhibits.

(a) Financial Statements. Not applicable.

(b) Pro Forma Financial Information. Not applicable.

(c) Shell Company Transactions. Not applicable.

(d) Exhibits.



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.

CRYOLIFE, INC.

Date: September 20, 2010

By: /s/ Steven G. Anderson

Name: Steven G. Anderson Title: Chairman of the Board, President, and Chief Executive Officer

UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF GEORGIA ATLANTA DIVISION

CRYOLIFE, INC.,

Plaintiff, v. CIVIL ACTION NO. 1:09-CV-1150-CAP

MEDAFOR, INC.,

Defendant.

<u>ORDER</u>

This matter is before the court on the plaintiff's motion for preliminary injunction [Doc. No. 66]. The plaintiff, pursuant to Federal Rule of Civil Procedure 65(a), moves the court for a preliminary injunction which would prohibit the defendant from terminating the parties' EDA. The plaintiff seeks narrowly tailored injunctive relief and asks the court to enjoin the defendant from terminating the EDA based upon a February 10 letter which the defendant claims was an O.C.G.A. § 11-2-609 statutory UCC demand. In essence, this would be a partial injunction that would eliminate one of the defendant's potential defenses in this action. Ruling on the merits of a defense is more appropriate after discovery and at summary judgment. Thus, having carefully considered the record and the briefs of the parties, the court finds that an injunction is not the appropriate vehicle for these issues to be addressed. As such, the court exercises its discretion and DENIES the motion for preliminary injunction [Doc. No. 66].

SO ORDERED, this 20th day of September, 2010.

/s/ Charles A. Pannell, Jr. CHARLES A. PANNELL, JR. United States District Judge