

November 29, 2006

Via U.S. Mail and Facsimile

Steven G. Anderson  
Chief Executive Officer  
Cryolife, Inc.  
1655 Roberts Boulevard N.W.  
Kennesaw, GA 30144

RE: Cryolife, Inc.  
Form 10-K for the fiscal year ended December 31, 2005  
File No. 1-13165

Dear Mr. Anderson:

We have limited our review of your Form 10-K for the fiscal year ended December 31, 2005, to disclosures relating to your contacts with countries that have been identified as state sponsors of terrorism. Our review with respect to this issue does not preclude further review by the Assistant Director group with respect to other issues. At this juncture, we are asking you to provide us with supplemental information, so that we may better understand your disclosure. Please be as detailed as necessary in your response. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General -

1. We note that on your website you list International BioGlue Distributors, including distributors in Iran (with a note that you are not currently shipping there) and Syria. Your 10-K does not include any information regarding contacts with these countries. In light of the fact that Iran and Syria have been identified by the U.S. State Department as state sponsors of terrorism, and are subject to U.S. economic sanctions, please describe for us the extent and nature of your past, current, and anticipated contacts with those countries, whether through distributors or other direct or indirect arrangements. Discuss the materiality to you of such contacts, individually and in the aggregate; and whether those contacts, individually or in the aggregate, constitute a material investment risk for your security holders.

2. Your materiality analysis should address materiality in quantitative terms, including the approximate dollar amount of any revenues, assets and liabilities associated with Iran and Syria. Please also address materiality in terms of qualitative factors that a reasonable investor would deem important in making an investment decision, including the potential impact of corporate activities upon a company's reputation and share value.

We note, for example, that Arizona and Louisiana have adopted legislation that requires their state retirement systems to prepare reports regarding state pension fund assets invested in, and/or permits divestment of state pension fund assets from, companies that do business with U.S.-designated state sponsors of terrorism. Pennsylvania's General Assembly has passed a resolution mandating

assessment and reporting of state pension fund assets invested in companies that do business with certain U.S.-designated state sponsors of terrorism. The Missouri Investment Trust has established an equity fund for the investment of certain state-held monies that screens out stocks of companies that do business with U.S.-designated state sponsors of terrorism. Your materiality analysis should address the potential impact of the investor sentiment evidenced by such actions directed toward companies that operate in Iran and Syria.

#### Closing Comments

Please respond to this comment within 10 business days or tell us when you will provide us with a response. Please file your response letter on EDGAR.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include all information required under the Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to the company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comment, please provide, in writing, a statement from the company acknowledging that:

the company is responsible for the adequacy and accuracy of the disclosure in the filings;

staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; and

the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filings or in response to our comments on your filings.

Please understand that we may have additional comments after we review your response to our comment. Please contact Jack Guggenheim at (202) 551-3523 if you have any questions about the comment or our review. You may also contact me at (202) 551-3470.

Sincerely,

Cecilia D. Blye, Chief  
Office of Global Security

Risk

cc: Peggy Fisher  
Brian Cascio  
Division of Corporation Finance

Steven G. Anderson  
Cryolife, Inc.  
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Page 1

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-5546

DIVISION OF  
CORPORATION FINANCE