

SECURITIES & EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934  
(Amendment No. \_\_\_\_ )\*

Cryolife, Inc.  
(Name of Issuer)

Common Stock  
(Title of Class of Securities)

228903100  
(CUSIP Number)

January 7, 2005  
(Date of event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which this  
Schedule 13G is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

\*The remainder of this cover page shall be filled out for a reporting  
person's initial filing on this form with respect to the subject class of  
securities, and for any subsequent amendment containing information which would  
alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be  
deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act  
of 1934 ("Act") or otherwise subject to the liabilities of that section of the  
Act but shall be subject to all other provisions of the Act (however, see the  
Notes).

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(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.  
OF ABOVE PERSONS (ENTITIES ONLY)

O.S.S. Capital Management LP

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*

(a)   
(b)

(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
Delaware, USA

NUMBER OF (5) SOLE VOTING POWER

-0-

SHARES

BENEFICIALLY (6) SHARED VOTING POWER

1,232,400

OWNED BY \_\_\_\_\_  
EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING \_\_\_\_\_

PERSON WITH (8) SHARED DISPOSITIVE POWER 1,232,400

-----  
(9) AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,232,400  
-----

(10) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

-----  
(11) PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.3%  
-----

(12) TYPE OF REPORTING PERSON \*\* PN

-----  
\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

-----  
(1) NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY) Oscar S. Schafer & Partners I LP  
-----

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\* (a) [X] (b) [ ]

-----  
(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION Delaware, USA

-----  
NUMBER OF (5) SOLE VOTING POWER -0-  
SHARES \_\_\_\_\_

BENEFICIALLY (6) SHARED VOTING POWER 57,489

OWNED BY \_\_\_\_\_  
EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING \_\_\_\_\_

PERSON WITH (8) SHARED DISPOSITIVE POWER 57,489

-----  
(9) AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 57,489  
-----

(10) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

-----  
(11) PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.2%  
-----

(12) TYPE OF REPORTING PERSON \*\* PN

-----  
\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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-----  
(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.  
OF ABOVE PERSONS (ENTITIES ONLY)  
Oscar S. Schafer & Partners II LP

-----  
(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*  
(a)  [X]  
(b)  [ ]

-----  
(3) SEC USE ONLY

-----  
(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
Delaware, USA

-----  
NUMBER OF (5) SOLE VOTING POWER -0-  
SHARES  
-----  
BENEFICIALLY (6) SHARED VOTING POWER 585,976  
OWNED BY  
-----  
EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING  
-----  
PERSON WITH (8) SHARED DISPOSITIVE POWER 585,976

-----  
(9) AGGREGATE AMOUNT BENEFICIALLY OWNED  
BY EACH REPORTING PERSON 585,976

-----  
(10) CHECK BOX IF THE AGGREGATE AMOUNT  
IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

-----  
(11) PERCENT OF CLASS REPRESENTED  
BY AMOUNT IN ROW (9) 2.5%

-----  
(12) TYPE OF REPORTING PERSON \*\*  
PN

-----  
\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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-----  
(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.  
OF ABOVE PERSONS (ENTITIES ONLY)  
O.S.S. Overseas Fund Ltd.

-----  
(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*  
(a)  [X]  
(b)  [ ]

-----  
(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
Cayman Islands

-----  
NUMBER OF (5) SOLE VOTING POWER -0-  
SHARES

BENEFICIALLY (6) SHARED VOTING POWER 588,935  
OWNED BY

EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING

PERSON WITH (8) SHARED DISPOSITIVE POWER 588,935  
-----

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED  
BY EACH REPORTING PERSON 588,935  
-----

(10) CHECK BOX IF THE AGGREGATE AMOUNT  
IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]  
-----

(11) PERCENT OF CLASS REPRESENTED  
BY AMOUNT IN ROW (9) 2.5%  
-----

(12) TYPE OF REPORTING PERSON \*\* CO  
-----

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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-----  
(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.  
OF ABOVE PERSONS (ENTITIES ONLY) O.S.S. Advisors LLC  
-----

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*  
(a) [X]  
(b) [ ]  
-----

(3) SEC USE ONLY  
-----

(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
Delaware, USA  
-----

NUMBER OF (5) SOLE VOTING POWER -0-  
SHARES

BENEFICIALLY (6) SHARED VOTING POWER 643,465  
OWNED BY

EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING

PERSON WITH (8) SHARED DISPOSITIVE POWER 643,465  
-----

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED  
BY EACH REPORTING PERSON 643,465  
-----

(10) CHECK BOX IF THE AGGREGATE AMOUNT  
IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

(11) PERCENT OF CLASS REPRESENTED  
BY AMOUNT IN ROW (9) 2.8%

(12) TYPE OF REPORTING PERSON \*\*  
OO

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.  
OF ABOVE PERSONS (ENTITIES ONLY) Schafer Brothers LLC

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*  
(a) [X]  
(b) [ ]

(3) SEC USE ONLY

(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
Delaware, USA

NUMBER OF (5) SOLE VOTING POWER  
SHARES -0-

BENEFICIALLY (6) SHARED VOTING POWER  
OWNED BY 1,232,400

EACH (7) SOLE DISPOSITIVE POWER  
REPORTING -0-

PERSON WITH (8) SHARED DISPOSITIVE POWER  
1,232,400

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED  
BY EACH REPORTING PERSON 1,232,400

(10) CHECK BOX IF THE AGGREGATE AMOUNT  
IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

(11) PERCENT OF CLASS REPRESENTED  
BY AMOUNT IN ROW (9) 5.3%

(12) TYPE OF REPORTING PERSON \*\*  
OO

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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(1) NAMES OF REPORTING PERSONS  
I.R.S. IDENTIFICATION NO.

OF ABOVE PERSONS (ENTITIES ONLY)

Oscar S. Schafer

-----

(2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\*

(a)  [X]  
(b)  [ ]

-----

(3) SEC USE ONLY

-----

(4) CITIZENSHIP OR PLACE OF ORGANIZATION  
United States

-----

NUMBER OF (5) SOLE VOTING POWER -0-  
SHARES

-----

BENEFICIALLY (6) SHARED VOTING POWER 1,232,400  
OWNED BY

-----

EACH (7) SOLE DISPOSITIVE POWER -0-  
REPORTING

-----

PERSON WITH (8) SHARED DISPOSITIVE POWER 1,232,400

-----

(9) AGGREGATE AMOUNT BENEFICIALLY OWNED  
BY EACH REPORTING PERSON 1,232,400

-----

(10) CHECK BOX IF THE AGGREGATE AMOUNT  
IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ]

-----

(11) PERCENT OF CLASS REPRESENTED  
BY AMOUNT IN ROW (9) 5.3%

-----

(12) TYPE OF REPORTING PERSON \*\*  
IN

-----

\*\* SEE INSTRUCTIONS BEFORE FILLING OUT!

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ITEM 1.

- (a) NAME OF ISSUER:  
Cryolife, Inc.
- (b) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:  
1655 Roberts Boulevard, NW  
Kennesaw, Georgia 30144

Item 2(a). NAME OF PERSON FILING:

- (i) Oscar S. Schafer & Partners I LP, a Delaware limited partnership ("OSS I"), with respect to shares of Common Stock (as defined in Item 2(d) below) directly owned by it;
- (ii) Oscar S. Schafer & Partners II LP, a Delaware limited partnership ("OSS II", and together with OSS I, the "Partnerships"), with respect to shares of Common Stock as defined in Item 2(d) below) directly owned by it;
- (iii) O.S.S. Advisors LLC, a Delaware limited liability company (the "General Partner"), which serves as the general partner of each of the Partnerships, with respect to shares of Common Stock (as defined in Item 2(d) below) directly owned by each of the Partnerships;

- (iv) O.S.S. Overseas Fund Ltd., a Cayman Islands exempted company ("OSS Overseas"), with respect to shares of Common Stock directly owned by it;
- (v) O.S.S. Capital Management LP, a Delaware limited partnership (the "Investment Manager"), which serves as investment manager, and management company, to OSS Overseas and the Partnerships, respectively, and has investment discretion with respect to shares of Common Stock directly owned by OSS Overseas and Partnerships;
- (vi) Schafer Brothers LLC, a Delaware limited liability company (the "SB LLC"), which serves as the general partner to the Investment Manager, with respect to shares of Common Stock directly owned by OSS Overseas and the Partnerships; and
- (vii) Mr. Oscar S. Schafer ("Mr. Schafer"), who serves as the senior managing member of the General Partner and of SB LLC, with respect to shares of Common Stock directly owned by OSS Overseas and the Partnerships.

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The Partnerships, OSS Overseas, the General Partner, the Investment Manager, SB LLC and Mr. Schafer are hereinafter sometimes collectively referred to as the "Reporting Persons." Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

ITEM 2(b) ADDRESS OF PRINCIPAL OFFICE, OR, IF NONE, RESIDENCE

The address of the principal business offices of each of:

- (i) Investment Manager  
598 Madison Avenue  
New York, NY 10022
- (ii) OSS I  
598 Madison Avenue  
New York, NY 10022
- (iii) OSS II  
598 Madison Avenue  
New York, NY 10022
- (iv) OSS Overseas  
SEI Investments Global (Cayman) Limited  
Harbor Place, 5th Floor  
South Church Street, P.O. Box 30464 SMB  
Grand Cayman, Cayman Islands  
British West Indies
- (v) General Partner  
598 Madison Avenue  
New York, NY 10022
- (vi) SB LLC  
598 Madison Avenue  
New York, NY 10022
- (vii) Mr. Schafer  
598 Madison Avenue  
New York, NY 10022

(c) CITIZENSHIP

- (i) Investment Manager - Delaware, USA
- (ii) OSS I - Delaware, USA
- (iii) OSS II - Delaware, USA
- (iv) OSS Overseas - Cayman Islands
- (v) General Partner - Delaware, USA
- (vi) SB LLC - Delaware, USA
- (vii) Mr. Schafer - New York, USA

(d) TITLE OF CLASS OF SECURITIES

Common Stock, par value \$0.01 per share

(e) CUSIP NUMBER  
228903100

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Item 3. If this statement is filed pursuant to Rules 13d-1(b) or 13d-2(b) or (c), check whether the person filing is a:

- (a)  Broker or dealer registered under Section 15 of the Act,
- (b)  Bank as defined in Section 3(a)(6) of the Act,
- (c)  Insurance Company as defined in Section 3(a)(19) of the Act,
- (d)  Investment Company registered under Section 8 of the Investment Company Act of 1940,
- (e)  Investment Adviser in accordance with Rule 13d-1 (b)(1)(ii)(E),
- (f)  Employee Benefit Plan or Endowment Fund in accordance with 13d-1 (b)(1)(ii)(F),
- (g)  Parent Holding Company or control person in accordance with Rule 13d-1 (b)(1)(ii)(G),
- (h)  Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act,
- (i)  Church Plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940,
- (j)  Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

Not applicable.

ITEM 4. OWNERSHIP.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

A. Investment Manager

- (a) Amount beneficially owned: 1,232,400
- (b) Percent of class: 5.3% The percentages used herein and in the rest of Item 4 are calculated based upon the 23,332,773 shares of Common Stock issued and outstanding as of October 29, 2004 as reported in the Company's Form 10-Q for the quarter period ended September 30, 2004.
- (c) (i) Sole power to vote or direct the vote: -0-
- (ii) Shared power to vote or direct the vote: 1,232,400
- (iii) Sole power to dispose or direct the disposition: -0-
- (iv) Shared power to dispose or direct the disposition: 1,232,400

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B. OSS I

- (a) Amount beneficially owned: 57,489
- (b) Percent of class: 0.2%
- (c) (i) Sole power to vote or direct the vote: -0-
- (ii) Shared power to vote or direct the vote: 57,489
- (iii) Sole power to dispose or direct the disposition: -0-



(iv) Shared power to dispose or direct the disposition:  
57,489

C. OSS II

(a) Amount beneficially owned: 585,976  
(b) Percent of class: 2.5%  
(c) (i) Sole power to vote or direct the vote: -0-  
(ii) Shared power to vote or direct the vote: 585,976  
(iii) Sole power to dispose or direct the disposition: -0-  
(iv) Shared power to dispose or direct the disposition:  
585,976

D. OSS Overseas

(a) Amount beneficially owned: 588,935  
(b) Percent of class: 2.5%  
(c) (i) Sole power to vote or direct the vote: -0-  
(ii) Shared power to vote or direct the vote: 588,935  
(iii) Sole power to dispose or direct the disposition: -0-  
(iv) Shared power to dispose or direct the disposition:  
588,935

E. General Partner

(a) Amount beneficially owned: 643,465  
(b) Percent of class: 2.8%  
(c) (i) Sole power to vote or direct the vote: -0-  
(ii) Shared power to vote or direct the vote: 643,465  
(iii) Sole power to dispose or direct the disposition: -0-  
(iv) Shared power to dispose or direct the disposition:  
643,465

F. SB LLC

(a) Amount beneficially owned: 1,232,400  
(b) Percent of class: 5.3%  
(c) (i) Sole power to vote or direct the vote: -0-  
(ii) Shared power to vote or direct the vote: 1,232,400  
(iii) Sole power to dispose or direct the disposition: -0-  
(iv) Shared power to dispose or direct the disposition:  
1,232,400

G. Mr. Schafer

(a) Amount beneficially owned: 1,232,400  
(b) Percent of class: 5.3%  
(c) (i) Sole power to vote or direct the vote: -0-  
(ii) Shared power to vote or direct the vote: 1,232,400  
(iii) Sole power to dispose or direct the disposition: -0-  
(iv) Shared power to dispose or direct the disposition:  
1,232,400

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The Investment Manager, the General Partner, SB LLC and Mr. Schafer expressly declare that this filing shall not be construed as an admission that each is, for the purposes of sections 13(d) or 13(g) of the Act, the beneficial owner of any securities covered by this filing.

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS

Not applicable

ITEM 6. OWNERSHIP OF MORE THAN FIVE PERCENT ON BEHALF OF ANOTHER PERSON

The (i) limited partners and the general partner of the Partnership and (ii) the shareholders and advisor of OSS Overseas have the right to participate in the receipt of dividends from, or proceeds from the sale of, the securities held for the Partnerships and OSS Overseas, respectively.

Item 7. IDENTIFICATION AND CLASSIFICATION OF THE SUBSIDIARY WHICH ACQUIRED THE SECURITY BEING REPORTED ON BY THE PARENT HOLDING COMPANY

Not applicable.

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP

See Item 2.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP

Not applicable.

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ITEM 10. CERTIFICATION

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

January 18, 2005

-----

Date

/s/ Oscar S. Schafer

-----

Signature

Oscar S. Schafer, Managing Partner

-----

Name/Title

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative other than an executive officer or general partner of the filing person, evidence of the representative's authority to sign on behalf of such person shall be filed with the statement, provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See ss.240.13d-7 for other parties for whom copies are to be sent.

ATTENTION: INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACT CONSTITUTE FEDERAL CRIMINAL VIOLATIONS (SEE 18 U.S.C. 1001)

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EXHIBIT 1

JOINT ACQUISITION STATEMENT  
PURSUANT TO RULE 13d-1(k)

The undersigned acknowledge and agree that the foregoing statement

on Schedule 13G, is filed on behalf of each of the undersigned and that all subsequent amendments to this statement on Schedule 13G, shall be filed on behalf of each of the undersigned without the necessity of filing additional joint acquisition statements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained therein, but shall not be responsible for the completeness and accuracy of the information concerning the others, except to the extent that he or it knows or has reason to believe that such information is inaccurate.

DATED: January 18, 2005

/s/ Oscar S. Schafer

-----  
individually and as senior managing member  
of (a) O.S.S. Advisors LLC, for itself and  
as the general partner of  
(i) Oscar S. Schafer & Partners I LP;  
and  
(ii) Oscar S. Schafer & Partners II  
LP; and(  
(b) Schafer Brothers LLC, for itself  
and as the general partner of  
O.S.S. Capital Management LP