

**UNITED STATES
SECURITIES AND EXCHANGE
COMMISSION**

Washington, D.C. 20549

SCHEDULE 13D/A
Under the Securities Exchange Act of 1934
(Amendment No. 4)*
Flamel Technologies, S.A.

(Name of Issuer)

Ordinary Shares

(Title of Class of Securities)

338488 109

(CUSIP Number)

Hope Flack
BVF Partners L.P.
900 North Michigan Avenue, Suite 1100
Chicago, Illinois 60611
(312) 506-6500

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

September 14, 2006

(Date of Event which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

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

* 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 disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose 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).

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
Biotechnology Value Fund, L.P.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Delaware

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
301,197

9. Sole Dispositive Power
0

10. Shared Dispositive Power
301,197

11. Aggregate Amount Beneficially Owned by Each Reporting Person
301,197

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
1.3%

14. Type of Reporting Person (See Instructions)
PN

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
Biotechnology Value Fund II, L.P.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Delaware

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
367,670

9. Sole Dispositive Power
0

10. Shared Dispositive Power
367,670

11. Aggregate Amount Beneficially Owned by Each Reporting Person
367,670

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
1.5%

14. Type of Reporting Person (See Instructions)
PN

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
BVF Investments, L.L.C.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Delaware

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
560,500

9. Sole Dispositive Power
0

10. Shared Dispositive Power
560,500

11. Aggregate Amount Beneficially Owned by Each Reporting Person
560,500

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
2.4%

14. Type of Reporting Person (See Instructions)
OO

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
Investment 10, L.L.C.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Illinois

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
82,820

9. Sole Dispositive Power
0

10. Shared Dispositive Power
82,820

11. Aggregate Amount Beneficially Owned by Each Reporting Person
82,820

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
0.4%

14. Type of Reporting Person (See Instructions)
OO

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
BVF Partners L.P.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Delaware

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
1,312,187

9. Sole Dispositive Power
0

10. Shared Dispositive Power
1,312,187

11. Aggregate Amount Beneficially Owned by Each Reporting Person
1,312,187

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
5.5%

14. Type of Reporting Person (See Instructions)
PN

1. Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only)
BVF Inc.

2. Check the Appropriate Box if a Member of a Group (See Instructions)

(a)

(b)

3. SEC Use Only

4. Source of Funds (See Instructions)
Not Applicable

5. Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)

6. Citizenship or Place of Organization
Delaware

7. Sole Voting Power
0

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

8. Shared Voting Power
1,312,187

9. Sole Dispositive Power
0

10. Shared Dispositive Power
1,312,187

11. Aggregate Amount Beneficially Owned by Each Reporting Person
1,312,187

12. Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions)

13. Percent of Class Represented by Amount in Row (11)
5.5%

14. Type of Reporting Person (See Instructions)
IA, CO

This Amendment No. 4 to Schedule 13D amends the Statement on Schedule 13D (the "Schedule 13D") filed with the Securities and Exchange Commission on April 21, 2005 by the Reporting Persons, as amended on July 19, 2005, January 13, 2006 and April 25, 2006, and is being filed by the Reporting Persons to disclose a decrease of more than 1% in their beneficial ownership of the Ordinary Shares.

Capitalized terms used herein and not defined herein have the meanings ascribed to them in the Schedule 13D. Except as specifically set forth herein, the information set forth in the Schedule 13D remains unchanged.

The Schedule 13D is hereby amended as follows:

ITEM 5. INTEREST IN SECURITIES OF THE ISSUER

Item 5 is hereby amended and restated to read in its entirety as follows:

The Reporting Persons' percentage ownership of the Ordinary Shares is based on 23,811,090 shares being outstanding, as reported in Flamel's Report on Form 6-K for the month of August 2006.

(a) BVF beneficially owns 301,197 Ordinary Shares, BVF2 beneficially owns 367,670 Ordinary Shares, Investments beneficially owns 560,500 Ordinary Shares, ILL10 beneficially owns 82,820 Ordinary Shares and each of Partners and BVF Inc. beneficially owns 1,312,187 Ordinary Shares, representing percentage ownership of approximately 1.3%, 1.5%, 2.4%, 0.4% and 5.5%, respectively.

(b) Each of BVF, BVF2, Investments and ILL10 shares with Partners voting and dispositive power over the Ordinary Shares each such entity beneficially owns. Partners and BVF Inc. share voting and dispositive power over the 1,312,187 Ordinary Shares they beneficially own with BVF, BVF2 and Investments, and ILL10.

(c) The following sales of Ordinary Shares have been made in the last sixty (60) days by the following Reporting Persons.

Sales of Ordinary Shares

<u>Reporting Person</u>	<u>Date</u>	<u>Shares Sold</u>	<u>Sales Price</u>
BVF	09/14/2006	58,000	\$18.25

<u>Reporting Person</u>	<u>Date</u>	<u>Shares Sold</u>	<u>Sales Price</u>
BVF2	09/14/2006	42,000	\$18.25

All of the above listed transactions were open market sales effected through Merrill Lynch & Co.

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.

Dated: September 18, 2006

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

BIOTECHNOLOGY VALUE FUND II, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

BVF INVESTMENTS, L.L.C.

By: BVF Partners L.P., its manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

INVESTMENT 10, L.L.C.

By: BVF Partners L.P., its attorney-in-fact

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert
President

BVF INC.

By: /s/ Mark N. Lampert

Mark N. Lampert
President