Pfenex Inc. Form SC 13G/A February 09, 2016

CUSIP NO. 717071104 Page 1 of 14 13G

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 1)*

PFENEX INC.

(Name of Issuer)

Common Stock, par value \$0.001 per share

(Title of Class of Securities)

717071104

(CUSIP Number)

December 31, 2015

(Date of Event Which Requires Filing of this Statement)

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

[X] 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 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).

CUSIP NO. 717071104 Page 2 of 14 13G

1. NAMES OF REPORTING PERSONS.

Franklin Resources, Inc.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b) X

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

(See Item 4)

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

(See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,576,723

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

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

15.4%

12. TYPE OF REPORTING PERSON

HC, CO (See Item 4)

CUSIP NO. 717071104 Page 3 of 14 13G

1. NAMES OF REPORTING PERSONS.

Charles B. Johnson

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b) X

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

USA

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

(See Item 4)

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

(See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,576,723

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

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

15.4%

12. TYPE OF REPORTING PERSON

HC, IN (See Item 4)

CUSIP NO. 717071104 Page 4 of 14 13G

1. NAMES OF REPORTING PERSONS.

Rupert H. Johnson, Jr.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b) X

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

USA

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

(See Item 4)

6. SHARED VOTING POWER

(See Item 4)

7. SOLE DISPOSITIVE POWER

(See Item 4)

8. SHARED DISPOSITIVE POWER

(See Item 4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,576,723

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

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

15.4%

12. TYPE OF REPORTING PERSON

HC, IN (See Item 4)

CUSIP NO. 717071104 Page 5 of 14 13G

1. NAMES OF REPORTING PERSONS.

Franklin Advisers, Inc.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b) X

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

California

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:

5. SOLE VOTING POWER

3,562,523

6. SHARED VOTING POWER

0

7. SOLE DISPOSITIVE POWER

3,562,523

- 8. SHARED DISPOSITIVE POWER
 - 0
- 9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

3,562,523

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

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

15.3%

12. TYPE OF REPORTING PERSON

IA, CO (See Item 4)

CUSIP NO. 717071104 Page 6 of 14 13G

Item 1.

(a) Name of Issuer

PFENEX INC.

(b) Address of Issuer's Principal Executive Offices

10790 Roselle Street San Diego, CA 92121

Item 2.

- (a) Name of Person Filing
 - (i): Franklin Resources, Inc.
 - (ii): Charles B. Johnson

(iii): Rupert H. Johnson, Jr.

(iv): Franklin Advisers, Inc.

(b) Address of Principal Business Office or, if none, Residence

(i), (ii), and (iii):
 One Franklin Parkway
 San Mateo, CA 94403 1906
(iv): One Franklin Parkway

San Mateo, CA 94403 1906

(c) Citizenship

(i): Delaware

(ii) and (iii): USA

(iv): California

(d) Title of Class of Securities

Common Stock, par value \$0.001 per share

(e) CUSIP Number

CUSIP NO. 717071104 Page 7 of 14 13G

Item 3. If this statement is filed pursuant to $\$240.13d\ 1(b)$ or 240.13d 2(b) or (c),

check whether the person filing is a:

(a) [] Broker or dealer registered under section 15 of the Act (15 U.S.C. 780).

(b) [] Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).

(c) [] Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C.

78c).

(d) [] Investment company registered under section 8 of the Investment Company

Act of 1940 (15 U.S.C 80a 8).

(e) [X] An investment adviser in accordance with \$240.13d 1(b)(1)(ii)(E);

(g) [X] A parent holding company or control person in accordance with \$240.13d 1(b)(1)(ii)(G);

(h) [] A savings associations as defined in Section 3(b) of the Federal Deposit

Insurance Act (12 U.S.C. 1813);

(i) [] A church plan that is excluded from the definition of an investment

company under section 3(c)(14) of the Investment Company Act of 1940 (15

U.S.C. 80a 3);

(j) [] A non U.S. institution in accordance with §240.13d 1(b)(ii)(J);

(k) [] Group, in accordance with §240.13d 1(b)(1)(ii)(K).

If filing as a non U.S. institution in accordance with $240.13d\ 1\,(b)\,(1)\,(ii)\,(J)$.

please specify the type of institution:

Item 4. Ownership

The securities reported herein are beneficially owned by one or more open or

closed end investment companies or other managed accounts that are investment

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management clients of investment managers that are direct and indirect subsidiaries

(each, an "Investment Management Subsidiary" and, collectively, the "Investment

Management Subsidiaries") of Franklin Resources Inc. ("FRI"), including the Investment

Management Subsidiaries listed in this Item 4. When an investment management contract

(including a sub advisory agreement) delegates to an Investment Management Subsidiary

investment discretion or voting power over the securities held in the investment

advisory accounts that are subject to that agreement, FRI treats the $\ensuremath{\mathsf{Investment}}$

Management Subsidiary as having sole investment discretion or voting authority, as the

case may be, unless the agreement specifies otherwise. Accordingly, each Investment

Management Subsidiary reports on Schedule 13G that it has sole investment discretion

and voting authority over the securities covered by any such investment management

agreement, unless otherwise noted in this Item 4. As a result, for purposes of Rule

be deemed to be the beneficial owners of the securities reported in this Schedule 13G.

CUSIP NO. 717071104 Page 8 of 14 13G

Beneficial ownership by Investment Management Subsidiaries and other FRI affiliates is

being reported in conformity with the guidelines articulated by the SEC staff in

Release No. 34 39538 (January 12, 1998) relating to organizations, such as FRI, where

related entities exercise voting and investment powers over the securities being

reported independently from each other. The voting and investment powers held by $% \left({{{\boldsymbol{x}}_{i}}} \right)$

Franklin Mutual Advisers, LLC ("FMA"), an indirect wholly owned Investment Management

Subsidiary, are exercised independently from FRI and from all other Investment

Management Subsidiaries (FRI, its affiliates and the Investment Management

Subsidiaries other than FMA are collectively, "FRI affiliates"). Furthermore, internal

policies and procedures of FMA and FRI establish informational barriers that prevent

and investment powers over the securities owned by their respective management

clients. Consequently, FMA and FRI affiliates report the securities over which they

hold investment and voting power separately from each other for purposes of Section $13\,$

of the Act.

Charles B. Johnson and Rupert H. Johnson, Jr. (the "Principal Shareholders") each own

in excess of 10% of the outstanding common stock of FRI and are the principal

stockholders of FRI. FRI and the Principal Shareholders may be deemed to be, for

purposes of Rule 13d 3 under the Act, the beneficial owners of securities held by $% \left({{{\rm{Act}}}_{\rm{A}}} \right)$

persons and entities for whom or for which FRI subsidiaries provide investment

management services. The number of shares that may be deemed to be beneficially owned

and the percentage of the class of which such shares are a part are reported in Items

9 and 11 of the cover pages for FRI and each of the Principal Shareholders. FRI, the

Principal Shareholders and each of the Investment Management Subsidiaries disclaim any

pecuniary interest in any of the such securities. In addition, the filing of this

applicable, should not be construed as an admission that any of them is, and each of

them disclaims that it is, the beneficial owner, as defined in Rule 13d 3, of any of

the securities reported in this Schedule 13G.

FRI, the Principal Shareholders, and each of the Investment Management Subsidiaries

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believe that they are not a "group" within the meaning of Rule 13d 5 under the Act and

that they are not otherwise required to attribute to each other the beneficial

ownership of the securities held by any of them or by any persons or entities for whom

or for which the Investment Management Subsidiaries provide investment management

services.

(a) Amount beneficially owned:

3,576,723

(b) Percent of class:

15.4%

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

Franklin Resources, 0

Charles B.

Johnson:

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Jr.:	Rupert H. Johnson,	0
3,562,523	Franklin Advisers, I	Inc.:
International:	Fiduciary Trust Comp	pany 14,200
(ii	Shared power to vot	e or to direct the vote
	0	

CUSIP NO. 7170 ⁻ Page 9 of 14	71104 13G
(iii)	Sole power to dispose or to direct the disposition of
Inc.:	Franklin Resources, O
Johnson:	Charles B. O
Jr.:	Rupert H. Johnson, O
3,562,523	Franklin Advisers, Inc.:
International:	Fiduciary Trust Company 14,200
(iv)	Shared power to dispose or to direct the disposition of
	0
_	

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [].

Item 6. Ownership of More than Five Percent on Behalf of Another Person

The clients of the Investment Management Subsidiaries, including investment companies registered under the Investment Company Act of 1940 and

other