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): August 1, 2012

ACELRX PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE	**001-35068**	**41-2193603**
(State of incorporation)	**(Commission File No.)**	**(IRS Employer Identification No.)**

351 Galveston Drive
Redwood City, CA 94063
(Address of principal executive offices and zip code)

Registrant's telephone number, including area code: (650) 216-3500

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))

ITEM 8.01 OTHER EVENTS.

On August 1, 2012, AcelRx Pharmaceuticals, Inc. (the "Company") issued a press release announcing that the U.S. Patent and Trademark Office had recently issued the Company Patent Number 8,226,978 entitled "Small Volume Oral Transmucosal Dosage Forms Containing Sufentanil for Treatment of Pain," and Patent Number 8,231,900 entitled "Small-Volume Oral Transmucosal Dosage Forms." A copy of the press release is attached as Exhibit 99.1 to this report.

ITEM 9.01 FINANCIAL STATEMENTS AND EXHIBITS.

(d) Exhibits.

Exhibit Number	Description
99.1	Press Release dated August 1, 2012.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: August 3, 2012

ACELRX PHARMACEUTICALS, INC.

By: /s/ JAMES H. WELCH

James H. Welch
Chief Financial Officer

INDEX TO EXHIBITS

Exhibit Number	Description
99.1	Press Release dated August 1, 2012.

Exhibit 99.1

FOR IMMEDIATE RELEASE

AcelRx Pharmaceuticals Receives Two Additional U.S. Patents for Small-Volume Oral Transmucosal Dosage Forms

Two new U.S. patents expand intellectual property protection for AcelRx pipeline of sufentanil NanoTab® pain products

REDWOOD CITY, Calif., August 1, 2012 – AcelRx Pharmaceuticals, Inc. (Nasdaq: ACRX), a specialty pharmaceutical company focused on the development and commercialization of innovative therapies for the treatment of acute and breakthrough pain, today announced that the U.S. Patent and Trademark Office (USPTO) has recently issued AcelRx Patent Number 8,226,978 entitled "Small Volume Oral Transmucosal Dosage Forms Containing Sufentanil for Treatment of Pain," and Patent Number 8,231,900 entitled "Small-Volume Oral Transmucosal Dosage Forms." The '978 patent claims a dosage form for oral transmucosal administration of sufentanil and the '900 patent claims a small-volume solid tablet containing a single dose of sufentanil for oral mucosal administration to a subject. These newly issued patents will provide intellectual property protection for sufentanil NanoTab based products until at least January 5, 2027. AcelRx currently has more than 70 pending patent applications worldwide and continues to file additional new patent applications to further strengthen its market exclusivity.

"The addition of these two new patents further strengthens our ability to protect our proprietary technology across our portfolio of sufentanil NanoTab products, including our lead product, ARX-01, the Sufentanil NanoTab PCA System," said Richard King, AcelRx's President and CEO. "We will continue to pursue expansion of our patent portfolio worldwide while also focusing on the execution of the ARX-01 Phase 3 clinical program, with data from two Phase 3 studies expected later this year."

The 8,226,978 patent is the first composition of matter patent the USPTO has issued in relation to sufentanil NanoTabs. AcelRx exclusively owns this patent, which provides protection in the United States for each of AcelRx's four development programs. The '978 patent covers AcelRx's proprietary NanoTab technology for delivering sufentanil with claims to a bioadhesive dosage form for oral transmucosal administration to a subject, comprising from about 5 to about 100 micrograms of sufentanil and a volume of less than 30 microliters (or a mass of less than 30 milligrams), which generates a minimal saliva response and delivers at least 55% of the sufentanil through the transmucosal route resulting in consistent pharmacokinetics.

The 8,231,900 patent also covers the composition of sufentanil NanoTabs with claims to a single dose of sufentanil provided as a substantially homogeneous, bioadhesive solid tablet for oral transmucosal administration to a subject, comprising from about 0.25 micrograms to 200 micrograms of sufentanil, a volume of less than 30 microliters, with complete erosion of the tablet evident after about 5, 10 or 15 minutes.

AcelRx also holds U.S. Patent Number 8,202,535 entitled “Small-Volume Oral Transmucosal Dosage Forms” which describes a method of treating pain by administering a small-volume solid tablet containing sufentanil by adhering to the oral mucosa. The ‘535 patent will provide intellectual property protection for sufentanil NanoTab based products in the United States through late 2030. European patent protection is provided by Patent Number EP2114383B1, which covers small-volume NanoTab dosage forms for transmucosal administration containing the opioid sufentanil. This European patent also covers elements of AcelRx’s dispensing technology and provides patent protection of specific pharmacokinetic parameters derived from sublingual administration using the NanoTab technology.

About AcelRx Pharmaceuticals, Inc.

AcelRx Pharmaceuticals, Inc. is a specialty pharmaceutical company focused on the development and commercialization of innovative therapies for the treatment of acute and breakthrough pain. AcelRx’s lead product candidate, the ARX-01 Sufentanil NanoTab PCA System, which is currently in Phase 3 clinical development, is designed to solve the problems associated with post-operative intravenous patient-controlled analgesia which has been shown to cause harm to patients following surgery because of the side effects of morphine, the invasive IV route of delivery and the inherent potential for programming and delivery errors associated with the complexity of infusion pumps. AcelRx has two additional product candidates which have completed Phase 2 clinical development: ARX-02 for the treatment of cancer breakthrough pain, and ARX-03 for mild sedation, anxiety reduction and pain relief for patients undergoing painful procedures in a physician’s office. AcelRx plans to initiate a Phase 2 study, pending protocol approval, for a fourth product candidate, ARX-04, a sufentanil formulation for the treatment of moderate-to-severe acute pain, funded through a grant from USAMRMC. For additional information about AcelRx’s clinical programs please visit www.acelrx.com.

Forward Looking Statements

This press release contains forward-looking statements, including, but not limited to, statements related to AcelRx Pharmaceuticals’ patent portfolio, including the useful life of its U.S. patents and the European patent, the continued expansion of its patent protection, market exclusivity, its ability to protect its proprietary technology, the scope of patent protection, and issued and planned or anticipated future clinical development of AcelRx Pharmaceuticals’ product candidates, including the execution of the Phase 3 clinical studies for ARX-01, the timing of the top-line data from two of the Phase 3 clinical trials, the initiation of Phase 2 clinical trial for ARX-04, and the therapeutic potential of AcelRx Pharmaceuticals’ product candidates. These forward-looking statements are based on AcelRx Pharmaceuticals’ current expectations and inherently involve significant risks and uncertainties. AcelRx Pharmaceuticals’ actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks related to: the success, cost and timing of AcelRx Pharmaceuticals’ product development activities and clinical trials; the success of its patent prosecution strategy; its ability to protect its proprietary technology, including the risks that pending patent applications may not result in issued patents; its ability to obtain sufficient financing to complete development and registration of its product candidates in the United States and Europe; its ability to obtain and maintain regulatory approvals of its product candidates; the market potential for its product candidates; and other risks detailed in the “Risk Factors” and elsewhere in AcelRx Pharmaceuticals’ U.S. Securities and Exchange Commission filings, including its Quarterly Report on Form 10-Q for the three months ended March 31, 2012. AcelRx Pharmaceuticals undertakes no duty or obligation to update any forward-looking statements contained in this release as a result of new information, future events or changes in its expectations.

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