

JUL 23 2002

510(k) Summary  
(As required by 21 CFR 807.92(a))

A. Submitter Information

Equidyne Systems Inc.  
11770 Bernardo Plaza Court, Suite 351  
San Diego, CA 92128

Phone Number: 858-451-7001  
Fax Number: 858-451-7002  
Contact: Jim Barley  
Regulatory Affairs  
Date: June 21, 2002

B. Device Information

Trade/Proprietary Name: Injex 30 Needle Free Injection System  
Common name of device: Jet Injector  
Classification Name: Injector, Fluid, Non-Electrically Powered

C: Predicate Device: Hypex Jet Injector

Predicate 510(k) #: K945873

D. Device Description:

Equidyne Systems Injex 30 Injector System is a means of administering subcutaneous medications without the use of needles. The needle free injector utilizes a high velocity focused jet of liquid to penetrate the skin and deposit the medication in the subcutaneous tissue. The process takes place in a fraction of a second. Needle free injection is useful in a wide range of drug therapy including immunization vaccines, hormones and local anesthetics, as well as the administration of insulin to the diabetic population, where individuals may need a number of injections per day.

D. Device Description: (cont.)

The Injex 30 Injector system consists of four main components;

1. Injector - A small re-usable hand held Injector,
2. Reset Box - A compact re-usable Reset Box used to reset and store the Injex 30 Injector,
3. Ampule - A disposable, sterile 0.3 ml Ampule that functions like a needle syringe to draw the medication from the medicine bottle or vial using a hand draw with a plunger. Once the Ampule is loaded into the Injex 30 Injector, the dose is injected into the individual by releasing the Safety and pressing the trigger.
4. Vial Adapter - A disposable, sterile Vial Adapter facilitates the transfer of the medication from the medicine bottle or vial to the Ampule.

The Injex 30 Injector can deliver variable doses of fluid medication from 0.05 ml to 0.30 ml.

E. Intended Use:

The Injex 30 Injector System is designed to deliver various medicines and vaccines by means of a narrow, high velocity jet of fluid which penetrates the surface of the skin and delivers the medicine or vaccine to the body.

F. Comparison of Required Technological Characteristics:

The Injex 30 Injector System has the same technological characteristics as the Hypex Jet Injector. The key differences between the two devices is the spring force.

G. Summary and Conclusion of Nonclinical Tests

**Biocompatibility**

The ISO-FDA Modified Matrix, FDA/ODE General Program Memorandum - # G95-1 was reviewed to determine applicable biocompatibility tests. In addition to the raw material testing by the supplier, Equidyne Systems conducted a Cytotoxicity Study using the ISO Agarose Overlay Method and ISO Skin Irritation Study in the rabbit on the sterilized Ampule material.

## G. Summary and Conclusion of Nonclinical Tests

### Biocompatibility (cont.)

Following is a summary of all test results:

BIOCOMPATIBILITY TEST	TYPE	RESULT
Cytotoxicity	Agarose Overlay	Non toxic
Irritation and Sensitization	Primary Skin Irritation	Non irritating

### Equivalency Tests

The purpose of the equivalency testing was to show that the Injex 30 Injection System is safe and effective for its intended use and that an injection from the Injex 30 Injector is substantially equivalent to that of the predicate device.

The chicken breast was used as a human subcutaneous tissue model due to its similarity to human tissue. Chicken breasts were injected with 0.05, 0.10, 0.15, 0.20, 0.25 and 0.30 ml of colored water using the Injex 30 Injector. The injection sites were then dissected and the flow and dispersion of the colored water was examined and compared.

The results were compared to the predicate device.

### Results and Conclusion

The objective of this study was to show that the Injex 30 Injector System is safe and effective for its intended use and is substantially equivalent to the predicate device.

The results of testing showed that the flow and dispersion of the injected fluid from the Injex 30 Injector System was substantially equivalent to that of the predicate device.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

**JUL 23 2002**

Mr. Jim Barley  
Regulatory Affairs  
Equidyne Systems, Incorporated  
11770 Bernardo Plaza Court, Suite 351  
San Diego, California 92128

Re: K022148

Trade/Device Name: Injex 30 Needle Free Injector System  
Regulation Number: 880.5430  
Regulation Name: Nonelectrically Powdered Fluid Injector  
Regulatory Class: II  
Product Code: KZE  
Dated: June 21, 2002  
Received: July 2, 2002

Dear Mr. Barley:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies.

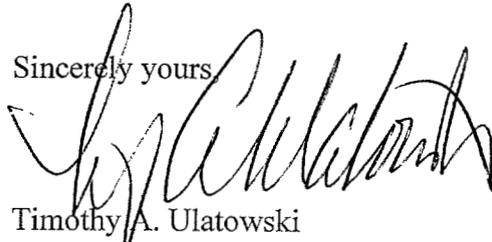
Page 2 – Mr. Barley

You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 21 CFR Part 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4618. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely yours,



Timothy A. Ulatowski  
Director

Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

510(k) Number (if known): \_\_\_\_\_

Device Name: Injex 30 Needle Free Injector System

Indications for Use:

The Injex 30 Injector System is designed to deliver various medicines and vaccines by means of a narrow, high velocity jet of fluid which penetrates the surface of the skin and delivers the medicine or vaccine to the body.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE OF NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

(Optional Format 3-10-98)

*Patricia Cuccinelli*  
(Division Sign-Off)  
Division of Dental, Infection Control,  
and General Hospital Devices  
510(k) Number K022148