

SEP 23 2003

Exhibit #1

**510(K) SUMMARY**

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR §807.92.

The assigned 510(k) number is: 19032364.

1. **Submitter's Identification:**

Microlife Intellectual Property  
Max Schmidheiny-Strasse 201  
9435 Heerbrugg / Switzerland

Date Prepared: July 30, 2003

2. **Name of the Device:**

Microlife Digital Underarm Electronic Thermometer, Model MT18E1 (V932)

3. **Predicate Device Information:**

Micro Idea Instrument Digital Thermometer, Model MT 3001/5001, K#851146,  
Microlife Corporation

4. **Device Description:**

Unlike regular thermometers, the unique elbow of the Digital Underarm thermometer is designed to find the "hotspot" easily and comfortably every time. In addition, to speed up the measurement time, we have added the fixed offset into this thermometer which is fulfilled by the hardware. With these characteristics, this thermometer can provide both a very high clinical accuracy and quick measurement time

The basic principle of this thermometer is that change of thermistor resistance, caused by changes of temperature, are converted to changes of frequency of R-C oscillator circuit. Therefore, temperature can be given by measuring the frequency of oscillator.

The thermometer uses a clinical offset of 1.5°F to match the actual underarm temperature.

5. **Intended Use:**

Microlife Digital Underarm Thermometer MT18E1□V932□ is designed specifically for measuring underarm (axillary) temperatures in children ages infant to 6 years old.

6. **Comparison to Predicate Devices:**

The Microlife Intellectual Property' s digital underarm thermometer, Model MT18E1□V932□ is substantially equivalent to the Micro Idea Instrument Digital Thermometer, □Model MT3001/5001□K#851146.

The new model MT18E1□V932□ has the same intended use for human body temperature measurement but focuses especially on underarm temperature and is similar in design to the 510(k) cleared device except for the unique elbow sensor design.

7. **Discussion of Non-Clinical Tests Performed for Determination of Substantial Equivalence are as follows:**

Compliance to applicable voluntary standards includes ASTM E1112, as well as IEC60601-1 and IEC60601-1-2 requirements and well as ISO 10993 biocompatibility testing.

Guidance documents included the "FDA Guidance on the Content of Premarket Notification □510□K□□Submissions for Clinical Electronic Thermometers".

8. **Discussion of Clinical Tests Performed:**

Controlled human clinical studies were conducted using the Microlife Digital Underarm thermometer MT18E1□V932□. Clinical data was presented evaluating clinical bias, clinical uncertainty, clinical repeatability and clinical offset per Microlife clinical test protocol for Digital Underarm thermometer

9. **Conclusions:**

The Microlife Digital Underarm Thermometer has the same intended use and similar technological characteristics as the Micro Idea Instrument Digital Thermometer, □Model MT3001/5001). Moreover, bench testing contained in this submission supplied demonstrate that any differences in their characteristics do not raise any new questions of safety or effectiveness. Thus, the Microlife Digital Underarm Thermometer is substantially equivalent to the predicate device.



SEP 23 2003

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Microlife Intellectual Property Gmbh  
C/O Ms. Susan D. Goldstein-Falk  
Official Correspondent  
MDI Consultants, Incorporated  
55 Northern Boulevard, Suite 200  
Great Neck, New York 11021

Re: K032364

Trade/Device Name: Microlife Digital Electronic Thermometer, Model MT18E1  
(V932)

Regulation Number: 880.2910

Regulation Name: Clinical Electronic Thermometer

Regulatory Class: II

Product Code: FLL

Dated: July 30, 2003

Received: August 7, 2003

Dear Ms. Goldstein-Falk:

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. 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), please contact the Office of Compliance at (301) 594-4618. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act 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,



Susan Runner, DDS, MA  
Interim 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): K032364

Device Name

Indications For Use:

Microlife Digital Underarm Thermometer MT18E1 (V932) is designed specifically for measuring underarm (axillary) temperatures in children ages infant to 6 years old.

Patricia Cucerite

(Division Sign-Off)

Division of Anesthesiology, General Hospital,  
Infection Control, Dental Devices

510(k) Number: K032364

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

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Concurrence of CDRH, Office of Device Evaluation (ODE)