

SOP: **EQ-01**

Title: **Operation & Maintenance of the Charm FireFly  
Luminometer**

SOP Last Revision Date:  
14JUL09

## **PURPOSE**

The purpose of this Standard Operating Procedure (SOP) is to describe the method for the operation of the Charm FireFly Luminometer in determining the effectiveness of routine sanitization through the measurement of ATP (Adenosine Tri-Phosphate). This SOP applies to Charm FireFly Luminometers used in the Laboratory Animal Research Core's Animals Facilities on the campus of the University of Missouri-Kansas City.

## **POLICY**

It is LARC policy to meet or exceed all federal, state, and local regulations and guidelines and to comply with all institutional policies and procedures as they apply to the use of animals in research. Personnel must attend any applicable training in animal care and use, occupational health and safety, equipment operation, and Standard Operating Procedures prior to performing activities outlined in this SOP or work under the direct supervision of a trained LARC staff member.

## **REFERENCES**

- A.** Laboratory Animal Research Core Personnel
- B.** Charm Sciences, Inc. FireFly Operator's Manual
- C.** SOP *SN-01 Chemical and Biological Monitoring of Facilities & Equipment*

## PROCEDURES

### Operation

- A.** Designate the number of PocketSwab's® Plus to be used, then Swab the desired sample areas as described in SOP SN-01 *Chemical and Biological Monitoring of Facilities and Equipment*. **Note: Do not twist down swabs or puncture the micro-tube seal prior to testing.**
- B.** Power the FireFly Luminometer by pressing down on the On/Off button. Cursor will blink on the Location number to be entered. The location number is the area to be tested or sample identification.
- C.** To enter a location number other than the number displayed, use the numeric keys to choose the correct location. Once the correct location site is displayed on the screen, proceed with the steps **D** through **H**.
- D.** Prior to inserting the swab into the Luminometer, screw the handle of the PocketSwab® down. The swab tip will puncture the seals and start the reaction.
- E.** Shake the PocketSwab® down hard with a wrist snap. Completely disperse the tablet. If necessary, tap on a hard surface to break up the tablet.
- F.** Within **one minute**, insert the PocketSwab® into the chamber of the FireFly and depress gently until fully seated.
- G.** Press **Enter** to read. Note count and results reported on the display.
- H.** Remove PocketSwab® from analyzer and discard for each sample.

## **Interpretation of Results**

- A.** The Charm FireFly count is in relative light units (RLU). Contamination is estimated using an enzyme which generates light in the presence of microbial ATP. The FireFly measures the amount of luminescence detected.
  
- B.** Results of 23,999 and below will be reported as a pass, which will be visible by a green indicator light.
  
- C.** Readouts of 24,000 and above will indicate by red light that the sanitization was not successful. The process of re-sanitizing and retesting the selected area is to be initiated. This process will continue until the area passes.