Good sterile technique is used during the filling, handling and surgical implantation of micro-osmotic pumps (refer to Section III for filling and handling of ALZet pumps and during the surgical implantation). It is essential that each pump is filled completely with solution and that correct filling is verified by the method detailed below. Air bubbles may result in unpredictable pumping rate fluctuations. If back pressure is encountered, the filling tube can be tilted at a slight angle to encourage bubble movement, or the filling tube may be slowly withdrawn while the syringe is held vertically. Care must be taken not to introduce air into the pump.

When the environment in which the pump is to be used differs significantly from normal mammalian body temperature (37°C) and conditions, the mass delivery rate may change over time, due to continued alteration of the skin temperature in vivo. It may swell and leak a concentrated salt solution, resulting in local irritation and pump malfunction. A calculation of the pump rate as a function of temperature is possible, but will result in an in vivo pump rate which is significantly from normal mammalian body temperature (37°C) and conditions.

If you desire the pump to start immediately, are working with a viscous solution, or you wish to attach a catheter, include the pre-filled pump in saline at 37°C for at least 48 hours. (Refer to Section II for complete instructions.)
I. Introduction
The ALZet Micro-Osmotic Pump is designed to deliver substances in vitro at a constant rate. This pump is used to deliver substances such as drugs, hormones, and other molecules at a controlled rate. The pump is made of stainless steel and contains a reservoir, a flow moderator, and a driving mechanism. The pump is filled with isotonic saline at 37°C and can deliver substances at a rate of 0.03 µl/hour. The pump is designed to deliver substances at a constant rate for up to 28 days. The pump is sterile and contains no plastic parts. The pump is used to deliver substances such as drugs, hormones, and other molecules at a controlled rate. The pump is made of stainless steel and contains a reservoir, a flow moderator, and a driving mechanism. The pump is filled with isotonic saline at 37°C and can deliver substances at a rate of 0.03 µl/hour. The pump is designed to deliver substances at a constant rate for up to 28 days. The pump is sterile and contains no plastic parts. The pump is used to deliver substances such as drugs, hormones, and other molecules at a controlled rate.