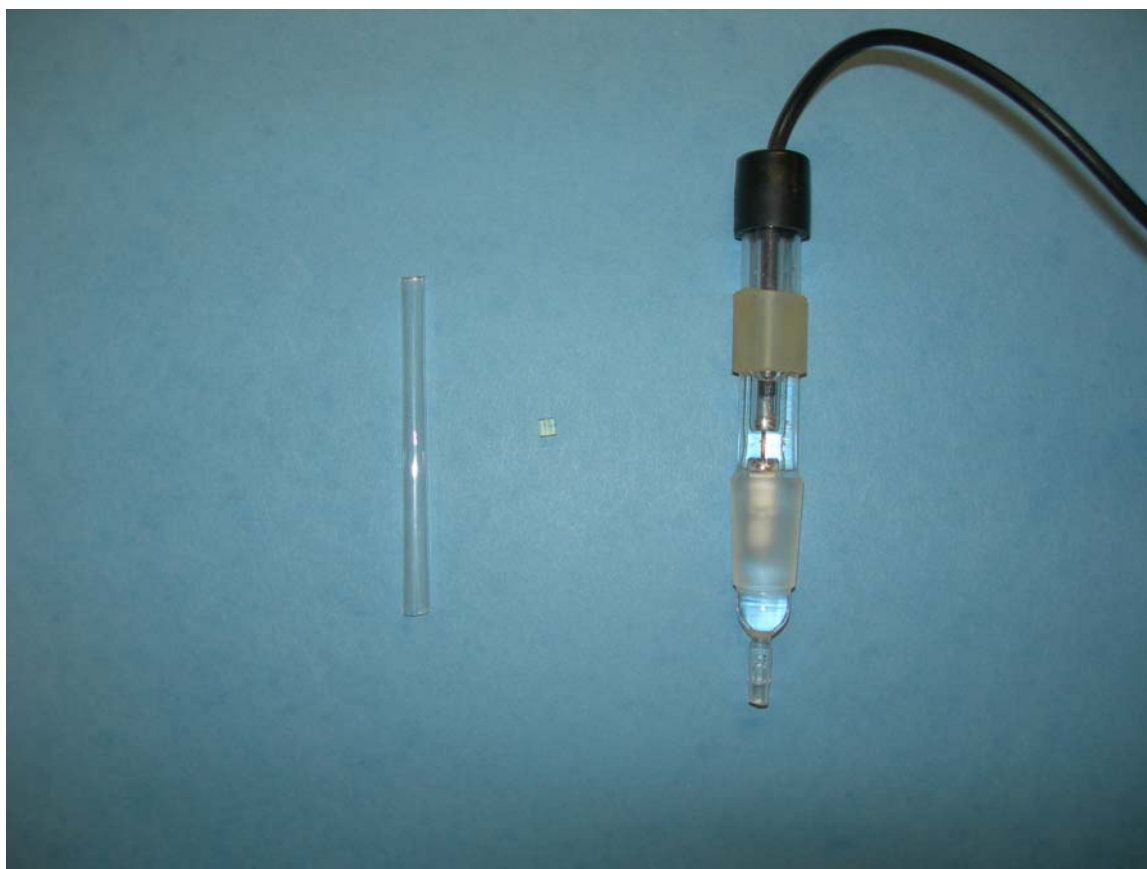


## *How To Guide*

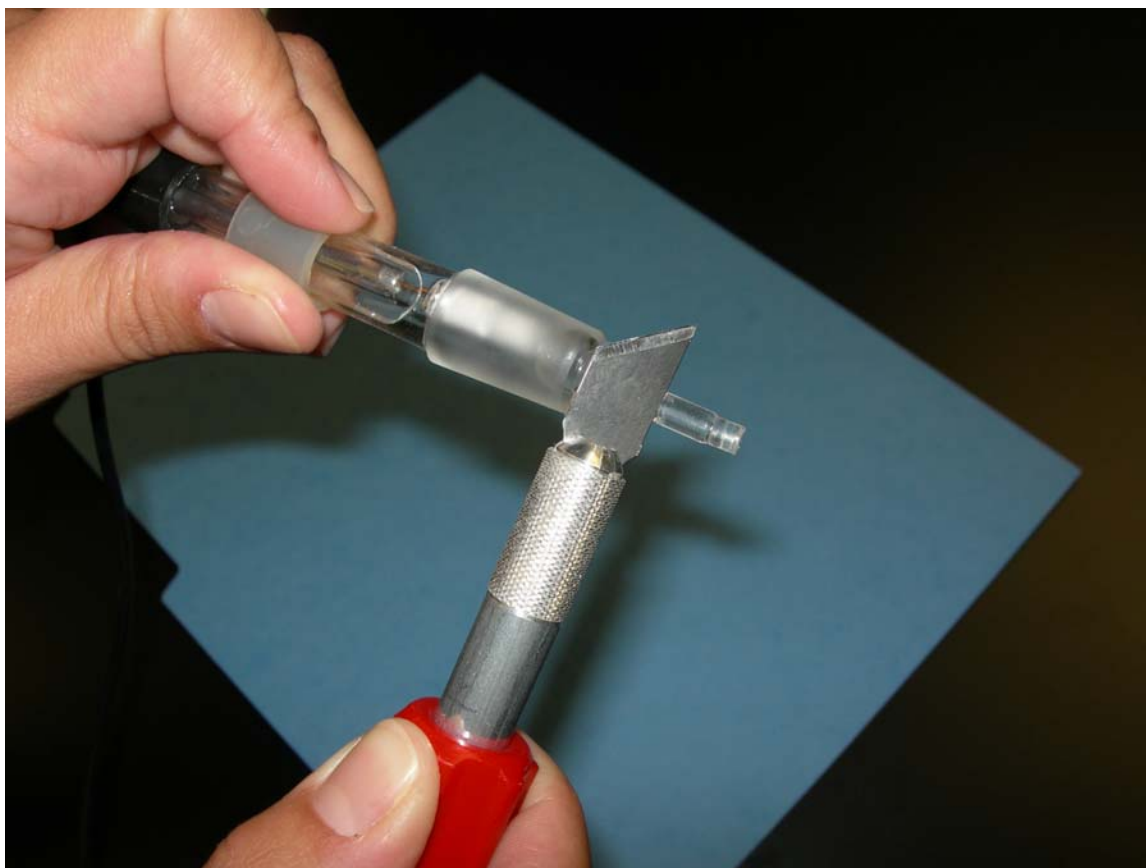


### **Maintenance of the K0077 Saturated Calomel Reference Electrode**

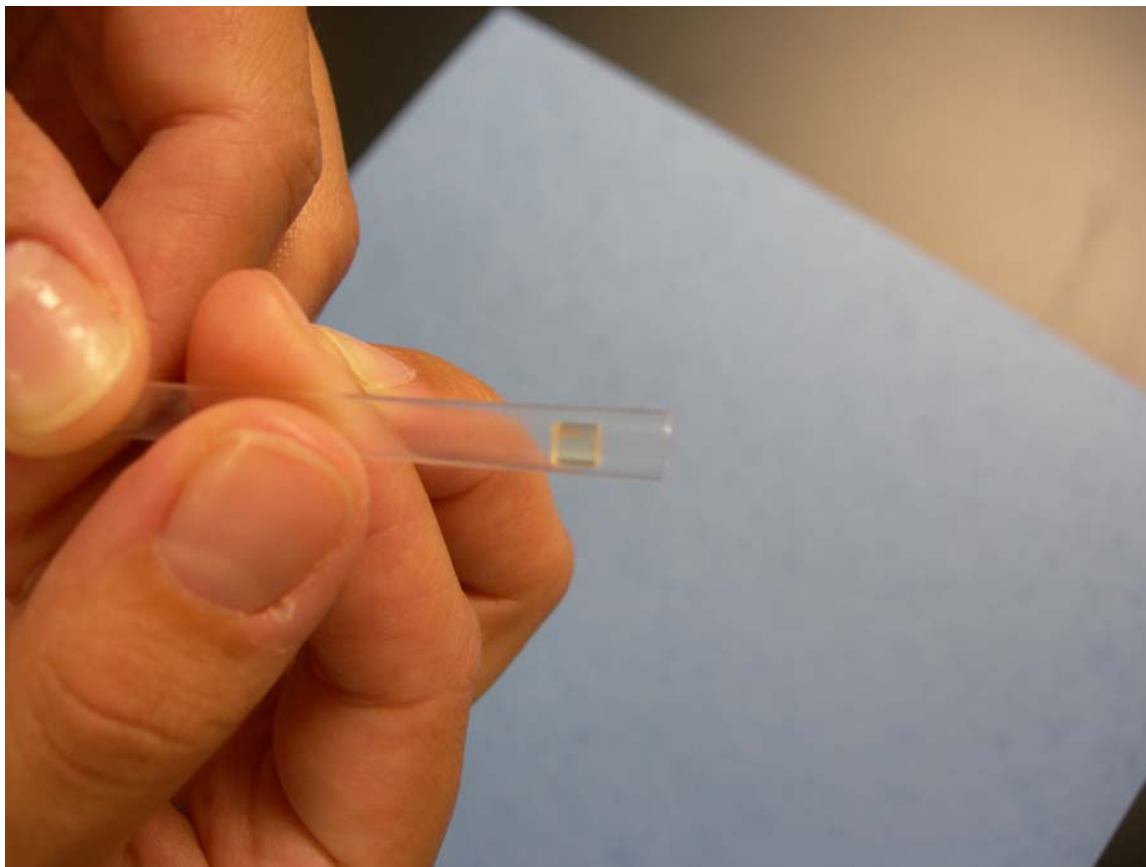
This guide uses the K0077 Saturated Calomel reference electrode to demonstrate the basics of reference electrode maintenance. These steps can be applied to any PAR reference electrode.



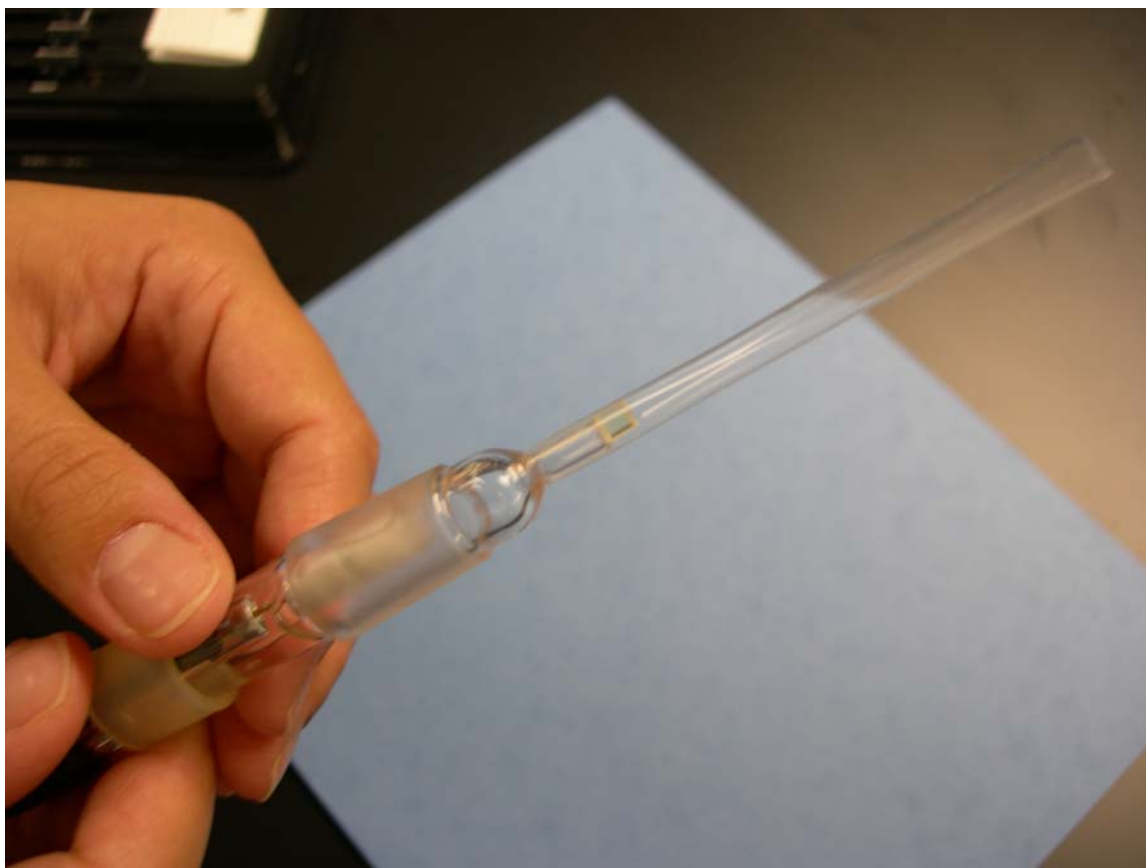
**Fig. 1:** The SCE K0077 with replacement frit and Teflon heat-shrink tubing (G0100)



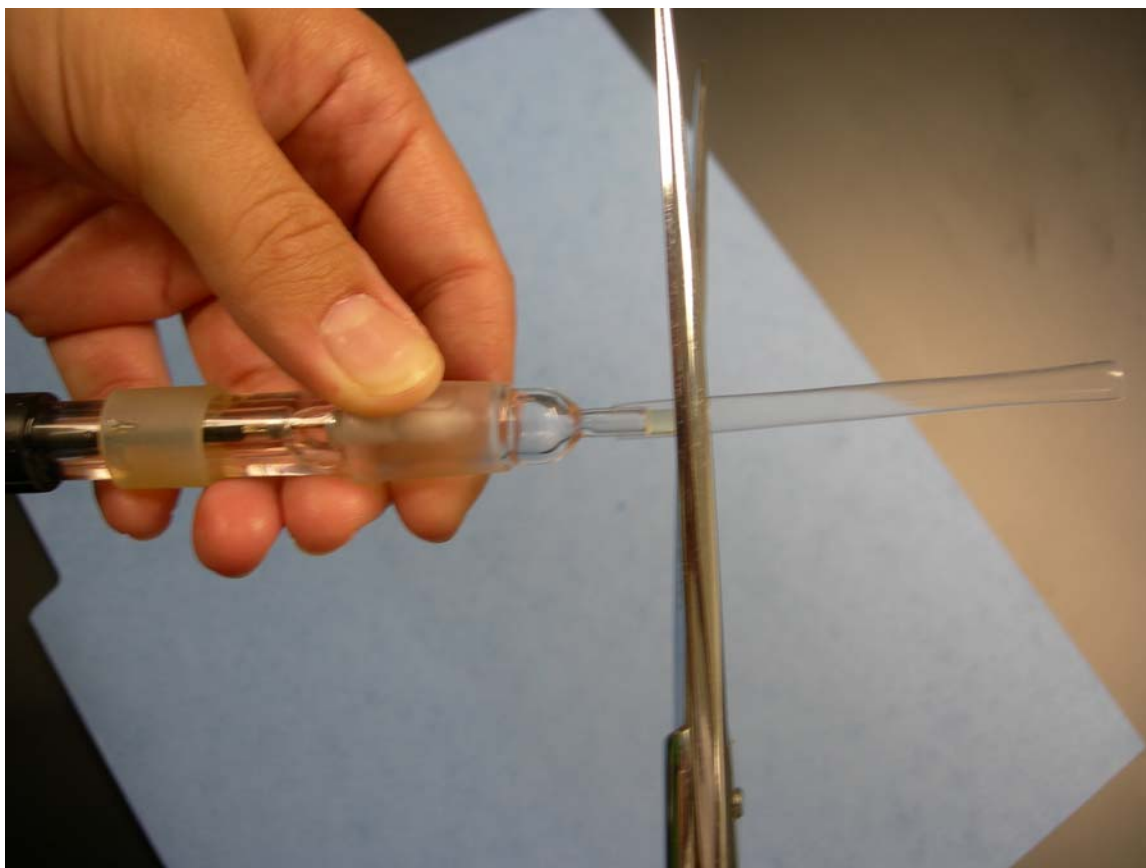
**Fig. 2:** To begin replacing the existing frit, first slice off the old Teflon sleeve with a razor blade, and discard the old frit and sleeve. Clean and dry the glass tubing where the new frit will be placed. Note: If the filling solution is not going to be replaced, take care not to spill too much. If it is to be replaced, then empty the entire SCE of its filling solution (saturated KCl).



**Fig. 3:** Place the new frit inside a new piece of Teflon sleeve as shown above. Try not to make finger contact with the frit, as oils from the skin can clog the pores on the frit.



**Fig. 4:** Slide the tubing over the glass tube of the SCE, and tap the tubing so that the frit rests against the glass tube.



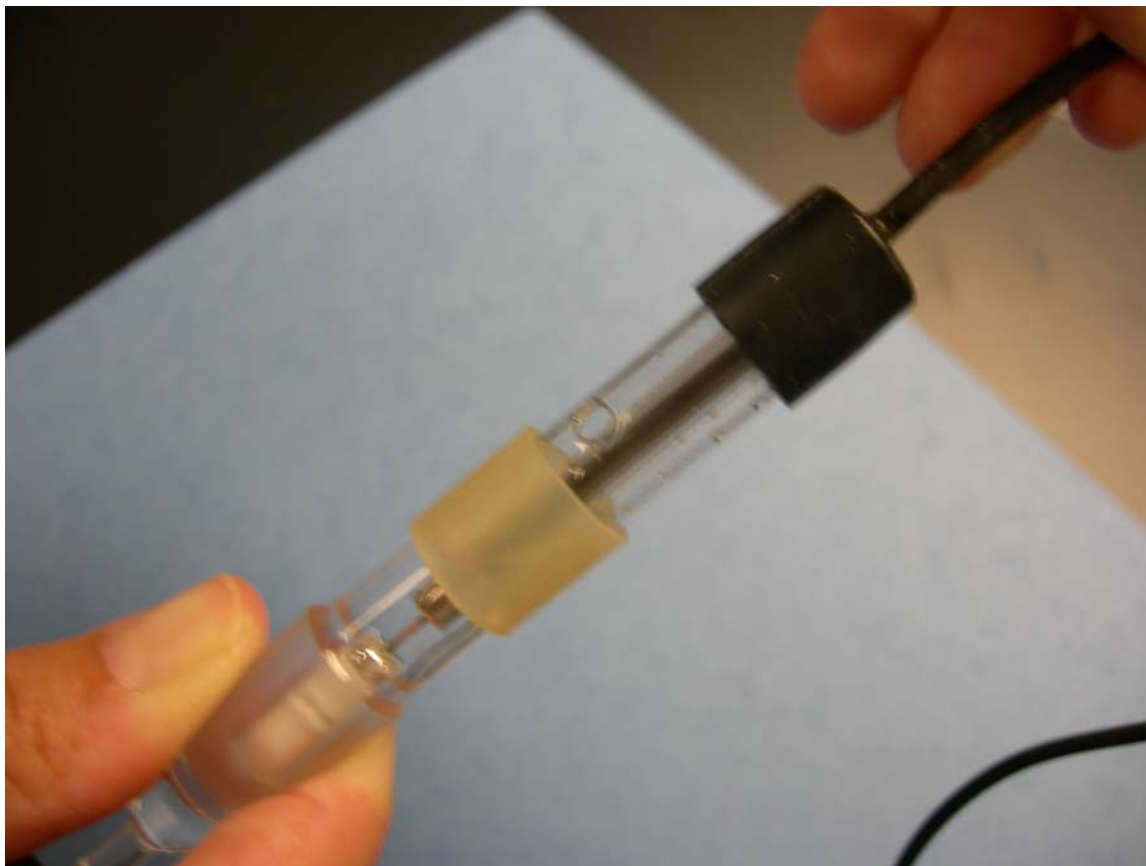
**Fig. 5:** Slide the tubing forward just a bit and cut off the excess tubing with scissors.



**Fig. 6:** Slide the tubing back down over the frit, exposing the one end. If the tubing was cut to the correct length, it should be just below the top 25% of the frits length.



**Fig. 7:** Heat the Teflon tubing on all sides with a hot air stream from a heat gun. The tubing will go from translucent to transparent as it shrinks around the frit, holding it firmly against the glass tubing to form a leak-tight seal. Note: If filling solution was still inside the electrode, do not invert the electrode until the glass has cooled to the touch.



**Fig. 8:** If the filling solution was removed, use the opening near the top of the electrode (slide the rubber tubing cover down if covered) to add new filling solution. Note: When not in use, this hole should be covered with the tubing to prevent evaporation of the filling solution. When being used, always uncover the opening slightly to allow the filling solution to equilibrate with the atmospheric pressure. When storing the electrode, it's best to store it so that the Vycor frit is kept wet by placing it in a solution the same as its own filling solution (saturated KCl)



