

Handling a micropipette

Background: A micropipette is an instrument used to accurately transfer microliter volumes of liquids. A micropipette with a range of 100–1000 μL , can be used to accurately transfer volumes from 100 μL to 1000 μL . Similarly, there are micropipettes with different range of volumes available. For example, 0.5–10 μL , 10–100 μL , etc.

Requirements:

Category	Particulars
Apparatus/Facilities	<ul style="list-style-type: none"> • Micropipette of desired volume • Micropipette tips • Tip box • Plastic beaker containing tap water

Procedure:

1. For pipetting any solution hold the pipette with the thumb on the plunger.
2. Set the desired volume, also called 'load' volume, by turning the plunger button. (*Take care not to set volumes beyond the range of the micropipette.*)
3. Place the tip cone into a micropipette tip present in the tip box and press it down firmly to attach the tip. (*Ensure that the tip is tightly fixed.*)
4. The plunger has two stopping points: first and second.
5. To measure the solution, press the plunger till the first stopping point to set the load volume.
6. Then immerse upto three-fourths of the tip into the solution. (*Ensure that no part of the micropipette comes in contact with the solution.*)
7. Now release the plunger slowly. As you do this, you will see the liquid slowly rise into the tip. (*Ensure that there are no air bubbles within the solution inside the tip.*)
8. To transfer the solution, press the plunger slowly till the first and then the second stopping point. (*Ensure that no solution remains in the tip.*)
9. Now discard the tip in a beaker containing water by pressing the tip ejector button.

Precautionary measures:

- NEVER invert the micropipette when a liquid is present in the tip.
- NEVER place the micropipette horizontally on the table when the tip contains a liquid.
- AVOID repeated pressing of the plunger when the tip is dipped in a liquid.
- ALWAYS transfer liquids by gentle pressing of the plunger to avoid pipetting errors.