

Stanford University Mercury Thermometer Replacement Program

Instructions for Reuniting Separated Fluid Column of Non-Mercury Thermometer

Heating Method

Heat the thermometers bulb in an upright position away from your face in warm liquid, air, or over a soft flame sufficient to allow the liquid column to rise slowly until the separated portion of the column enters the expansion chamber at the top of the thermometer. Note that over filling the expansion chamber will break the thermometer. Tap the thermometer gently on the surface of a large rubber stopper in an upright position allowing the gas separating in the column to rise above the column. Allow the thermometer to cool slowly in an upright position.

Cooling Method

Prepare a solution of shaved ice and salt or CO₂ (Dry-Ice) and alcohol. Place the thermometer bulb only in the solution. Keep the thermometer upright. Allow the liquid column to retreat into the bulb, swing the thermometer (Bulb Down) in an arc releasing the entrapped gas, permitting it to escape above the column. Allow the thermometer to warm slowly in an upright position.