



R.B.C. Diluting Fluid (Grower's)

R023

It is used as diluting fluid for blood specimen to count the red blood cells under high power.

Composition**

Ingredients

Sodium sulphate	12.50 gm
Glacial acetic acid	33.30 gm
Distilled water	100.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

- 1) Prepare a 1:200 dilution of blood, using a RBC pipette.
- 2) Draw well-mixed blood to the 0.5 mark.
- 3) Wipe the outside of the pipette, clean with a piece of dry gauze without touching the opening of the capillary and immerse in the freshly filtered diluting fluid.
- 4) Immediately draw diluting fluid to the 101 mark past the bulb.
- 5) Rotate the pipette for 3 minutes immediately before filling the haemocytometer.
- 6) Expel, first 4 - 6 drops from the pipette and fill one side of counting chamber.
- 7) Allow the cells to settle for a few minutes.

Principle And Interpretation

RBC diluting fluid is isotonic with blood, hence hemolysis does not take place. Normal Saline also can be used. But it causes slight crenation of red blood cells and allows rouleaux formation.

The blood specimen is diluted 1:200 with the RBC diluting fluid and cells are counted under high power (40 x objective) by using a counting chamber.

The number of cells in undiluted blood are calculated and reported as the number of Red cells per cu mm (MI) of whole blood.

Quality Control

Appearance

Colourless solution.

Clarity

Clear with no insoluble particles.

Results

Under high power magnification, count the cells in the centre and in the four corner squares of the central ruled area

Calculation

$$\begin{aligned}\text{Red blood cells/mm}^3 \text{ in the original blood} &= \text{Cell counted} \times \text{dilution factor} / \text{Volume counted in mm}^3 \\ &= \text{Cell counted} \times 200 / 0.02\text{mm}^3 \\ &= \text{Cell counted} \times 10^4\end{aligned}$$

Storage and Shelf Life

Store below 30°C in tightly closed container and away from bright light. Use before expiry date on label.

Reference

1) Text book of Medical Laboratory Technology; Praful B.Godkar

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