

BORIC ACID EYE LOTION

AIM OF THE EXPERIMENT

To prepare and submit 100ml of boric acid eye lotion.

APPARATUS REQUIRED

- ① Glass beaker
- ② Measuring cylinder
- ③ Glass rod
- ④ Filter paper.

CHEMICAL REQUIRED

- ① Boric acid
- ② Sodium chloride.

THEORY

- Eye lotions are sterile, aqueous solution used for washing the eyes and removing the foreign particles or removing the dust particle.
- Boric acid eye lotion is used for irrigation of eyes, hence it should be iso-osmotic (isotonic) with tears (lacrimal secretion) isotonicity of eye lotion is adjusted by sodium chloride.
- Boric acid acts as anti-septic (anti-bacterial and anti-fungal). Hence addition of extra preservative is not required.

PROCEDURE

- Calculate the amount of NaCl required for adjustment of isotonicity by freezing point method.
- Dissolve the required quantity of boric acid in purified water. To this solution add NaCl and adjust the final volume with purified water.
- The prepared solution was filtered and transfer the filtrate to a suitable container and labelled.

Teacher's Signature _____

OBSERVATION

S.No	INGREDIENTS	QUANTITY GIVEN	QUANTITY TAKEN
1	Boric acid	1g	1.2g
2	Purified water ---- q/s ----	100 ml	120 ml.

CALCULATION

Freezing point depression of lachrymal secretion = -0.52°C .

Freezing point depression of 1% w/v solⁿ of boric acid (a) = -0.288°C .

Freezing point depression of 1% w/v solⁿ of NaCl (b) = -0.576°C .

$$\begin{aligned} \% \text{ w/v of adjusting solution} &= \frac{0.52 - a}{b} \\ &= \frac{0.520 - 0.288}{0.576} \\ &= 0.409 / 100 \text{ ml.} \end{aligned}$$

If 100 ml of solution required = 0.4g of NaCl.

$$\begin{aligned} \text{So, 120 ml of solution required} &= \frac{0.4}{1000} \times 120 \\ &= 0.489 \text{ or } 480 \text{ mg.} \end{aligned}$$

REQUIRED FORMULA FOR 120 ml.

Boric acid = 1.2g

NaCl = 480mg.

Purified water ---- q/s ---- = 120 ml.

DISPENSING

Transfer the filtrate to a narrow mouth glass container.

DIRECTIONS

Dilute with equal volume of warm water, before use and to be used as direction.

AUXILIARY LABEL

→ DILUTE THE LOTION WITH EQUAL VOLUME OF WARM WATER BEFORE USE.

→ DISCARD ANY UNUSED SOLUTION AFTER 24 HOURS OF THE DILUTION

→ FOR EXTERNAL USE ONLY

STORAGE

Store in a cool place.

USES

Boric acid acts as anti-irritative.

REPORT

120ml of boric acid eye lotion was prepared labelled and submitted.

BORIC ACID EYE LOTION

Composition

Boric acid 1.2g.
NaCl 480mg
Purified water 120mg,
--- q.s. ---

Boric acid eye lotion.
(Acts as Anti-infective)

FOR EXTERNAL USE ONLY

Mfd Lic no-

Batch no.

Mfd date.

Exp date.

MRP(£) -

Mfd by - SOCP, CUTM
Gopalpur.