

OBJECT - To determine the total aldehyde content of given sample.

REFERENCE -

(i) kokate C.K, "Practical pharmacognosy" 5th edition, 2014
Vallabh prakashan, new delhi. pg- 147.

(ii) Herbal drug technology practical book, nirali publication.
Pg- 84.

REQUIREMENTS -

Conical flask, burette, burette stand, Hydroxylamine hydrochloride, HCl, alcohol, methyl orange, potassium hydroxide, peppermint oil.

THEORY -

Peppermint oil is obtained from leaf of peppermint by distillation process.

Family - Lamiaceae.

peppermint oil is promoted for topical use for the problems like headache, muscle aches, joint pain & itching.

Also used for treating cough & colds, reducing pain, ~~for~~ improving mental health function & reducing stress.

Peppermint oil contain aldehyde content in the form of citral. It has a sharp odor that's cool & refreshing.

The main chemical components of peppermint oil are menthol & menthone. However, there are many more as well.

Calculation:

$$\therefore 1 \text{ ml of } 0.5 \text{ N KOH in } 60\% \text{ alcohol} \\ = 0.0767 \text{ of citral.}$$

$$\therefore 0.7 \text{ ml of } 0.5 \text{ N KOH} = 0.0767 \times 0.7 \\ (\text{in } 60\% \text{ alcohol}) = 0.05369 \text{ of citral.}$$

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PROCEDURE

- Weighed accurately about 10 gm of peppermint oil in a relative density (R.D) bottle & then transfer it to the conical flask & added 7 ml of Hydroxylamine hydrochloride reagent & a drop of solution of methyl orange indicator.
- Titrated the liberated acid with 0.5 ml of KOH in 60% alcohol, until the red colour changes to permanent yellow colour in lower layer.
- Calculate the aldehyde content present in the peppermint oil.

RESULT -

Total aldehyde content present in peppermint oil is 0.05369 of citral.

Teacher's Signature: _____