

### 12.10. In Vitro Release Study

Sodium salicylate            5 g  
Base                                100 g

- 1- Bases in four different groups will be used in this study. Experiments will be carried out in two batches from each group.

Hydrocarbon bases	Absorption bases	Water removable emulsion bases	Water soluble bases
White petrolatum	Simple ointment (BP 1999)	Hydrophilic ointment (USP 27 – NF 22)	PEG ointment (USP 27 – NF 22)

**Method:** With membrane

**Materials:**

- Cellulose acetate membrane:

For the release study, cellulose acetate membrane is kept into buffer for an hour at 37°C before using.

- Buffer: 200ml of pH 6.0 Phosphate buffer at 37°C

- Glass cells

The empty glass cells are weighted then they are filled with base samples and close tightly with cellulose acetate membrane. The cells are weighted again and the base contents of each cells are calculated.

The cells are immersed into the buffer and the release medium is stirred at 300 rpm using a magnetic stirrer. 2 ml of samples are withdrawn at predetermined time intervals and same amount of fresh buffer are added to the medium.

Preparation of the samples:

1 ml of FeCl<sub>3</sub> solution is added to the samples and they are completed with pH 6.0 phosphate buffer to 10 ml. The absorbance values of the samples are measured using colorimeter / spectrophotometer and the concentration (mg/ml) of the active substance is calculated using calibration equation. The release rate of active substance is plotted.

Question:

1. Compare the release profiles of active substance from different type of bases and discuss the results.