

# Preparation of Urea-formaldehyde resin ~~(U-F)~~ (U-F)

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Chemicals required :

- (i) Urea (2g),
- (ii) 40% aq formaldehyde sol<sup>n</sup> or formalin (5 ml)
- (iii) Con  $H_2SO_4$  (3-4 drops)

They - Urea-formaldehyde resins are prepared by condensation of urea and formaldehyde in acidic medium.

Step-I: First urea and formaldehyde react to form methylol urea derivatives depending upon U/F ratio.

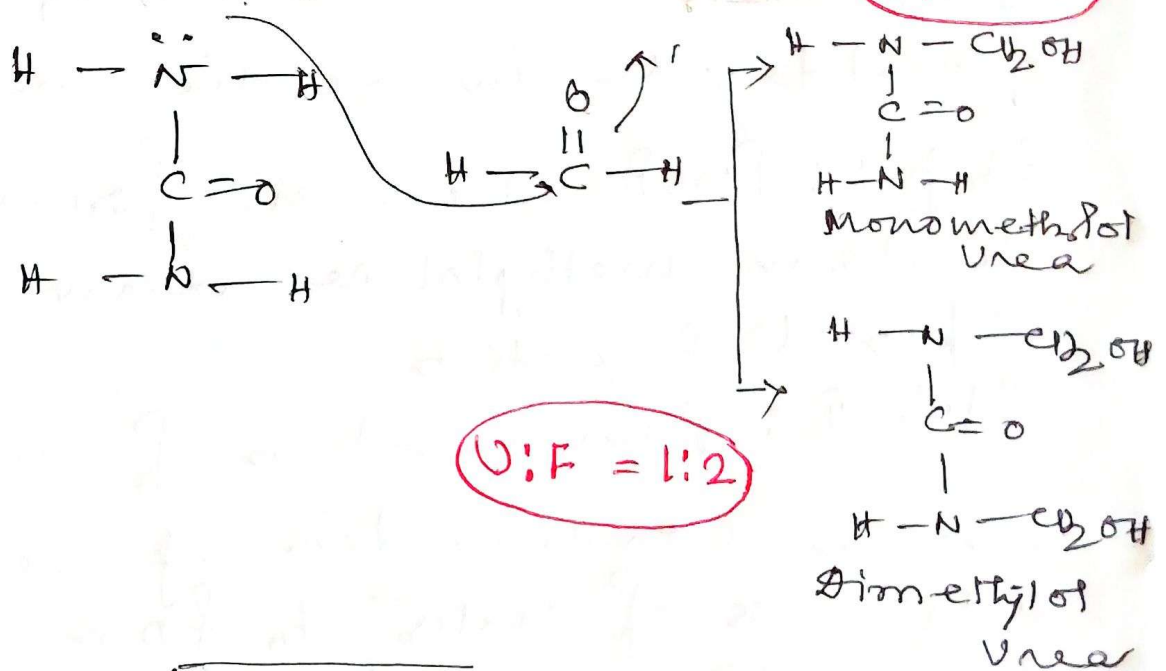
Step-II: Polymerisation of methylol urea. Through condensation of several molecules with loss of water to form a highly crosslinked urea-formaldehyde resin.

# Procedure

Take 5 ml of 40% aq HCHO sol<sup>n</sup> in a 1 l- beaker. Add 2 g Urea. Stir well to make a saturated solution. Add a few drops of conc H<sub>2</sub>SO<sub>4</sub> and stir vigorously till a white solid mass is formed. Filter the residue and wash several times with distilled water to remove excess acid. Dry the residue. Weigh the product

## Reactions involved

Step - I



Step - II

