
Scope for the Further Study

Present work deals with the preparation of pH-responsive polymer and its microencapsulation for generating phase change material and its utilization for coating the outermost layer of sanitary napkins. Seven polymers and their microencapsulation had been synthesized and applied on the topmost layer of the sanitary napkins for the performance analysis. Future scopes of the same works are:

- A similar study can be performed by further optimizing concentrations of monomers, temperature, and time of the polymerization process.
- Monomers can be change and other polymers can be produced which can response with the alteration in pH.
- This study can be extended by changing the outermost layer of the sanitary napkin or applying the prepared pH-responsive microcapsule to the middle layer of the napkins.
- The same polymers prepared in the study can be grafted with natural polymers for enhancing the biodegradability of the sanitary napkins.
- pH-responsive super absorbent polymer and its microcapsules can undergo surface modification, lamination, or coating with additional monomers to make it suitable for feminine hygiene application.