

Abstract:

Although the issue of cleaning and washing historical textiles and fabrics has been proposed in the field of conservation and restoration for a long time, it is still one of the important and challenging issues in this field. Depending on different characteristics of detergents, formulation for various textiles will be different. Having different additives and changes of formulation due to time passing, industrial and commercial detergents lack sufficient and proper conditions to be used in such field. Choosing a detergent which is proportional with the conditions of the textile and its physical features, and has good cleaning effect and does not damage the textile and create bad effects on its fibers in the long run should be considered by the conservator in his plan.

Thus, by investigating the advantages and disadvantages of Two common surfactants in the composition of detergents, sodium lauryl ether sulphate (anionic surfactant) and coconut fatty acid diethanolamide (nonionic surfactant) for wet cleaning of historical cotton textile, this research aims to evaluate which one is more relevant for such activity.

To reach such an aim, it is necessary to evaluate their cleaning capacity and damaging effects in the cleaning of cotton textile. The method of this research is comparative-analysis and the data has been gathered via relevant experiments such as ATR-FTIR, colorimetry, tensile strength and etc.

The aged cotton textiles are washed by the detergents consisting of the under-study surfactants, and they are examined before and after washing. The results show these surfactants could be useable in conservational processes.

Keywords: Conservation, restoration, Cotton, washing, detergent, surfactant, Sodium Lauryl Ether Sulphate, Coconut fatty acid Diethanolamide, cellulose, wet cleaning