

# Non-aqueous Wool Fiber Dyeing Process using Reverse Micellar Approach

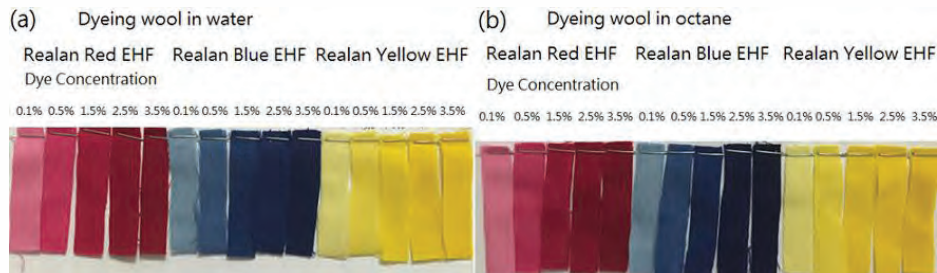
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In textile industry, reactive dyeing using nanoscaled dye carrier in non-aqueous solvent mostly is well dispersibility, low viscosity and high diffusion into wool fabric matrix properties can result in shorter dyeing periods in comparison with the conventional water dyeing process.

The working temperature of non-aqueous dyeing is 88°C, which is 10 degrees lower than in conventional water-dyeing process in terms of energy saving aspect. The obtained color strength in terms of K/S sum value is better than that in conventional aqueous dyeing. Dyeability of wool fibre with reactive dye from the reverse micellar solution was improved without incorporation of textile auxiliaries such as electrolytes and chemicals like acetic acid or sodium bicarbonate for pH adjustment.

## Special Features

- Achieve good color fastness
- Optimization of dyeing and fixation process could be achieved in a one-bath reverse micelle solution, leading to a potential of lowering the operation costs and energy consumption
- The used solvent can be recycled and reusable



Dyed wool sample in (a) water and (b) octane (the dye concentration from 0.1% to 3.5%)



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